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ORIGINAL COMMUNICATIONS.

ART. I. *On the Difference between Contrast and Opposition in the Fine Arts.* Translated from the French of M. QUATREMÈRE DE QUINCY. By P.

THE word Contrast is generally considered synonymous with Opposition; but, like other synonymes, the two words convey different ideas, both in their etymological and their common acceptation. It appears to us that between the meaning of these two words there is the same distinction as between contrary and different. Every thing that constitutes Contrast doubtless includes the idea of Opposition, inasmuch as the greater contains the lesser; and it is equally undeniable that, when we use the word contrary, we convey the idea of a difference. The idea of Opposition, both in nature and the imitative arts, indicates a position, whether between animated beings or the works of man, which is calculated to bring out and distinguish the separate qualities of two distinct objects, which may be equal to each other, though quite different. The idea of Contrast, on the contrary, implies such a decided hostility between two objects as to make one of them appear evidently inferior to the other. Thus, we may place the advantages of a residence in town in *opposition* to those of a residence in the country; but we draw a *contrast* between a good man and a bad one.

The art of painting is that which will best explain to us the precise value of the words Contrast and Opposition when applied to the fine arts. Painting, when considered only as the technical use of colours, exists solely by virtue of Opposition. What are tints, semi-tints, shades, and gradations of light, but points of opposition, the almost infinite variety of which is occasioned by the attempts of art to imitate the effects which nature, in a manner peculiar to herself, displays in every object in creation, and in each of the different parts of such object. These wonderful effects are produced by the numerous points of opposition which the art of the painter enables him to draw from

very few colours: and these points of opposition, as every one knows, consist of combinations of scarcely perceptible differences of light and shade, clearness and obscurity, strength and weakness.

Painting, however, is not confined to this mode of imitating nature: it can address itself not only to the eye, but to the mind; and it can copy not only the minute gradations of colour, but those bold and striking effects, which alike dazzle the senses and excite the imagination. For instance, when an unexpected change is introduced, from a smiling landscape to a wild and savage country, interspersed with threatening rocks; when forked lightning is made to furrow the horizon; or when the flames of a volcano, or of a fearful conflagration, glare through the darkness of night: these are what are called contrasts in nature; and these can never be produced in painting by gentle transitions of shade, deepening by almost imperceptible degrees from light to darkness; but by sudden, bold, and vigorous changes, and by using colours which afford the greatest and most striking contrasts to each other. The power of producing contrasts is one of the advantages that painting has over sculpture; which, from its nature, is incapable of Contrast, and admits of only very slight Opposition, and which, in this particular, stands alone. This appears to us the easiest and clearest mode of explaining the distinction betweeen Opposition and Contrast.

The same distinction between Contrast and Opposition which is found in painting exists in all the other fine arts; but, of course, it is most conspicuous in those arts which operate most forcibly and directly on our senses. Thus music, which cannot exist without Opposition, since it consists of a succession of different tones, *opposed* to each other, can also display, when necessary, the most striking contrasts. It can pass suddenly and abruptly from the faintest sounds to those resembling thunder; and, when employed to express the moral affections, it can glide from the expression of the softest sentiments to the noisy *contrast* of the most stormy passions.

Poetry also consists of alternations of Opposition and Contrast; Opposition, produced by a succession of images, which, though all are of similar nature, are yet different, and so arranged as to display their points of difference sufficiently to avoid monotony; and Contrast, produced by bold and striking combinations of images, evidently and clearly distinct.

The effect of Contrast is, then, to carry the mind suddenly, by an unexpected impulse, to the enjoyment of an impression of astonishment; which, being powerful, ought neither to be of long duration, nor frequently repeated. Reason and a feeling of propriety can alone fix the limits within which every principle applied to the fine arts must be confined; and these limits vary with different kinds of art. Every artist has, indeed, a

theory of his own on this point; and, as each may choose his own method of working on the minds of others, principles which are common to all the fine arts are liable to such changes and modifications in their application as to render them of little effect. Some artists, indeed, do not allow the introduction of Contrast at all into their works, though they admit of the necessity of Opposition; as they assert that contrasts ought to be confined to those arts which, expressing themselves by images, seize on our affections, and, exciting our imaginations, make our thoughts fly rapidly from one place or feeling to another.

Architecture is certainly less capable than any other art, except sculpture, of exercising this power; because it addresses itself chiefly to the understanding, and acts more upon the intelligent than the sensitive faculty of the mind. It pleases us by the correctness of its relative affinities, by the rational combination of its forms, outlines, masses, and proportions; and the agreement of all the parts with each other and the whole. Our gratification in this arises from our judgment, our reasoning powers being first called into action. The kind of admiration excited resembles that arising from a general survey of the works of nature; and the impression is that of order. Now, order can never produce strong and sudden emotions: these are the effect of surprise and contrast.

It is clear, therefore, that architecture ought to make more use of Opposition than of Contrast in its mode of employing a variety of dimensions and projections, alternate simplicity and enrichment, and the proportion, weight, lightness, and other qualities, which constitute, as it were, the melody and rhythm of its language. It is by innumerable degrees of opposition, and slight shades of difference, that it is enabled to produce in its edifices that harmony and that character which lead the mind to entertain a feeling of rational admiration; a feeling totally different to that of astonishment, the merit of producing which belongs to Contrast.

We do not intend to infer that architecture does not possess resources and means enough within itself to enable it to produce objects differing sufficiently in construction and form to display the effect of Contrast, when brought into contact with each other: all that we maintain is, that the true spirit of architecture can never consist in abrupt approximations. For instance, what a transition it would be, to pass suddenly from the elegant and costly decorations of an Ionic interior to an underground tomb, hollowed out of the rudest materials: such a contrast as this is neither suited to the place nor to the purpose.

Contrast, in architecture, can only belong to the decorations of some interiors, or to scenic representations; which, not only in idea, but in reality, are constantly shifting every moment.

An illustration of the true and genuine effect of Contrast, in architecture, may be met with in the palace of Té, at Mantua; in the sudden and unexpected transition from an elegant gallery to the celebrated hall painted by Giulio Romano, representing immense masses of rock falling upon and crushing the giants. Examples might also be quoted, from several religious edifices, of decorative illusions, causing the darkness of the tomb to be succeeded by the brightness of day. These are contrasts, which, if desired, may be introduced into architecture, but not by means of its own attributes. It is the same with respect to the theatre. Nowhere can a better representation be given of the opposite characteristics which an architect may bestow upon a prison, a tomb, a cenotaph, a temple, a ball-room, or a banqueting hall, &c. But it is on the stage alone that such erections can be made to figure in contrast.

ART. II. *Essay on Beauty in Architecture.* By Mr. FREDERICK LUSH.

WE cannot arrive at a knowledge of the true essence of the beautiful, in any work whatever, without "first thinking of its end and design, and then, of course, examining the propriety of its parts in relation to this design and end." (*Blair's Lectures: Beauty.*) If this observation holds good relatively to the works of nature, it does so equally with regard to most of the works of man, and more particularly to architecture. In this art, more than in any other, Beauty must be combined with fitness, to give satisfaction, even to the eye. For example, if the basement of a building appear insufficient to bear up the superstructure, or the thrust of incumbent parts, or if its slender piers seem liable to yield to the weight of materials above, no accompanying ornaments, however pleasing they may be in themselves, can ever counterbalance the neglect of that fundamental principle of fitness, which ought to be the foundation of all that is beautiful in architecture. A due sense and regard for this fitness and propriety in design regulates and has a remarkable influence over our ideas of taste and beauty. As utility springs from necessity, so Beauty has its origin in principles and natural causes. However great the pretensions of a building may be to an architectural character, yet, if its ornaments be allowed to interfere with this essential quality, it loses its beauty, and displeases the eye as much as the greatest deformity.

Twisted, or spiral, columns are ornamental; yet, as they appear to indicate weakness, they lose their characteristic expression of ornament when seen supporting a heavy entablature,

which requires props possessing strength. Other ornaments prove alike objectionable when they are misapplied, and show a total want of propriety.

Fitness and propriety, then, may be considered as the most material, or fundamental, principles of Beauty in architecture; but they do not comprise all that is required on the subject. Much of the beauty displayed in buildings depends upon the form of the plans on which they are erected: but there must be many other causes cooperating to render them beautiful to our senses. A circular building, forming an harmonious composition of parts, with its columns, entablature, and whatever other ornaments may be introduced, continued all round it in regular succession, being best calculated to raise the mind and afford pleasure to the imagination, is of all others the most beautiful. It is the uniformity and succession of parts, in this instance, which produces the beautiful; and, for this reason, the ancient heathen temples, which were frequently round, or of some other regular form, and adorned by a range of uniform columns on every side, have gained the admiration of all posterity. From the same cause, also, a regular continuation of arches, or rows of lofty clustered pillars, such as those which are placed down the ailes in some of our old cathedrals, cannot fail to excite ideas of the beautiful. A collection of similar forms, arranged in regular order, gives the idea of design, and, consequently, of Beauty; but it is obvious, that, were these same forms placed together without any order or expression of design and character, the beauty would be no longer apparent, and that we should consider the production merely as the work of chance.

Of all figures, those in which there is uniformity combined with variety are the most likely to excite in the mind the ideas of Beauty: but agreeable conceptions of objects may arise from other distinct properties, which are more or less pleasing to the imagination. According to the compound ratio of uniformity and variety is the beautiful in objects; for, where the uniformity of bodies is the same, or equal, the beauty is as the variety, and *vice versâ*. Now, if we compare the different kinds of bodies which we meet with in regular figures with what is found to extend through the more complex species of substances, we shall prove this to be an axiom. It has been already observed, that a circular building exceeds every other in point of beauty: but this can only hold good where a circle was intended; and it cannot be asserted, that the nearer any polygon approaches the circle, the more beautiful it is; for, when the number of sides is much increased, the proportion of them to the radius of the circle to which they belong is so small, that they lose the beauty presented by a succession of equal surfaces, without acquiring

that of the continued surface of the circle. It follows, therefore, as a deducible truth, that regular solids, having an equal number of plain surfaces, rank next to circular bodies in regard to Beauty, because they please the eye by a succession of regular forms, and create ideas of symmetry and completeness among the parts.

Regularity is one great source of Beauty, on account of its suggesting the ideas of fitness and propriety, which have always a greater connexion with orderly and well-proportioned forms, than with those which appear not constructed according to any certain rule. Regularity would, however, degenerate into monotony, if it were not relieved by variety. This quality owes its power of creating Beauty to the judicious or injudicious manner in which it is contrasted with its opposite property. No one would affirm that a poem which indicates a want of variety in cadence was either beautiful or musical. In like manner, a building which presented the same unvaried appearance throughout would so completely tire the eye, that we should find it impossible to call it beautiful. Such a building would resemble a barren moor or sandy desert, where nothing offers itself to gratify the mind of the beholder, or break the wearisome uniformity of the scene.

The necessity of unity of design in a building is too obvious, and has been already much too often discussed in this Magazine, to require to be treated upon at length here: but it may not be out of place to cite a passage from Burke's *Essay on the Sublime and Beautiful;* the ideas expressed in which, on this point, perfectly accord with my own. He says, in explaining the theory of the subject (part iv. sect. 10.), "The mind, in reality, hardly ever can attend diligently to more than one thing at a time: if this thing be little, the effect is little, and a number of other little objects cannot engage the attention: the mind is bounded by the bounds of the object; and what is not attended to, and what does not excite, are much the same in the effect: but the eye, or the mind (for in this case there is no difference), in great uniform objects, does not readily arrive at their bounds; it has no rest whilst it contemplates them; the image is much the same every where: so that every thing great by its quantity must necessarily be one, simple, and entire." For this reason, a great building should be uniform in all its parts, and not be charged with ornaments too diminutive for its scale. The beauty of a small cottage consists in the simplicity of its general details, and in the contrast formed from the combination of various figures. But, in combining these component parts, unity is very capable of being maintained.

Symmetry and proportion must also be allowed to form component parts of Beauty. What is it that produces the beautiful in many works of antiquity, but their elegant proportions? As

the beauty of the human figure results from the relation and mutual adaptation of every part to the whole; so, in an edifice, the correspondence and relation of parts to each other constitute that symmetry and harmony which is ever beautiful, and pleases the eye.

Intricacy is caused when a regular row of arches, or a colonnade, is broken by a portion projecting or receding from that row; or the introduction of a different ornamental feature, which gives a new and unexpected effect of light and shade. Considerable beauty may be produced by this quality in a single building, surrounded with picturesque scenery, or where a detached building unites in general effect, though remotely, with others similarly placed. But, with regard to a street in a city, it may be questioned whether this quality is applicable; for, where one system, style, or character is preserved throughout, as is generally the case in rows of houses, the heights of the several chimneys, and other prominent masses, ought to be in like manner equal. Hence, Beauty assumes a different character in towns to what it does in the country; since there we admire the irregularity in the form, position, and other parts of a building, because we perceive its beauty harmonising with the surrounding objects.

Colours, in buildings, have a great effect in pleasing or displeasing the eye; and they may be classed under four general heads: — 1. the cold, such as green, blue, violet, &c.; 2. the warm, such as red, orange, scarlet, purple, &c.; 3. the gay, or simple, such as white; and, 4. the gloomy, or dark, such as black. Nature has pointed out to us, in several ways, the colours which form the most agreeable and alluring compounds to the human eye; and teaches us that all vivid and intense colours should be used with a sparing hand. The direct union of two opposite colours is not only very far from being harmonious, but will never agree, like two discordant notes in music.

Nothing can be more discordant than to see glaring red tiles on the roof of a large stone building, or on one, the surface of which is intended to represent stone, moulded into elegant forms. On an ordinary dwelling-house, or small brick cottage, red tiles may be allowable; and their effect, when mellowed by the hand of time, is harmonious: but the contrast between the harsh red of the tiles and the polished stone of the walls of a large public building is so strong, that the beauty of the latter becomes lost, or greatly depreciated. Again, if we suppose an edifice entirely black, it is evident that we should not so readily distinguish in it those contrasts of light and shade, which are so striking in one of pure white stone; and, consequently, that a considerable portion of the effect intended to be produced by the design of the building would be destroyed.

The beauty of form and position in different bodies is determined by the shape and support which it is required that they should receive, in order that the centre of gravity may remain stable.

In architecture, no objects can be more offensive to the eye than a wall that is not quite upright; a pillar leaning from its base; a column apparently unable to support the weight applied to it; or a very tall narrow chimney surmounting a low house. On the other hand, how beautiful is an edifice constructed with the orders in suitable succession, from the massive Doric in the basement, supporting the weight of the whole mass, to the light and elegant Corinthian above, combined with other forms, equally expressive of richness and delicacy! Observe, also, a fabric, in which the chief characters aimed at are plainness and stability in the basement, increasing in richness the higher it rises, till the crowning portion goes off against the sky with a feathery lightness and delicacy. It is like the tree, whose thick and stable trunk throws around it on every side heavy branches, gradually diminishing in thickness, till their extremities become so attenuated, as to wave to and fro with the gentlest breath of heaven!

The Chinese pagoda is a fine example of the union of certain requisites for stability; namely, perpendicularity and expanding base, with other qualities which contribute to render it worthy of notice. When seen springing up from the centre of a wooded island, or other equally delightful spot, it presents, perhaps, one of the most beautiful objects which fancy has ever portrayed.—*July* 4. 1836.

ART. III. *A few Remarks on the Effects likely to be produced from giving the Middling Classes of Society a Knowledge of, and Taste for, Architecture; and on its being a fit Study for the Ladies.* By W. P. GRIFFITH, Esq.

ALTHOUGH there are as many different opinions on the subject of giving the middling classes a knowledge of architecture as there are on many others, yet, I think, few can deny that the probable result of such knowledge would be the general improvement of our domestic architecture; and that it might eventually, also, lead to a much greater encouragement of the fine arts. At all events, the employment of architects would be much increased; and, as it is by practice only that we can hope to attain a good taste, there is very little doubt of our ultimately arriving at it.

It is well known that, by the officiousness of parties who sometimes have the management of erecting public buildings, the original intentions of the architect are often nearly, and some-

times completely, destroyed, to please the whims and fancies of these directors. Now, if these interferences were made by persons who had acquired some taste for the art, let that taste be ever so small, professional men might benefit by their suggestions.

The importance of possessing a knowledge of architecture is, by many persons, never perceived until they are called upon to exercise an opinion on the subject; and yet there is scarcely any one who may not be solicited to join a committee to decide upon the merits of architectural designs for schools or other buildings connected with the parish in which he resides. The deficiency of persons often put upon these committees is pretty well known, and more especially by those architects whose drawings have unfortunately happened to fall into their clutches.

The best means of remedying these evils is by putting into the hands of all classes, but more particularly of the middling classes, such publications as your *Architectural Magazine* and *Encyclopædia of Cottage, Farm, and Villa Architecture;* by which persons would be much sooner induced to take an interest in the subject than by recommending to them more expensive and complicated works, which would tend more to dishearten than to please them.

To builders, carpenters, and others concerned with buildings, a knowledge of architecture is as necessary and useful as that of carpentry is to the architect. Carpenters ought to be well acquainted with architecture, and more particularly with the formation of mouldings; so that, in case they were ever called upon to execute any thing, under their own superintendence, they might show a little taste. By these means, in the course of time, our London shop fronts would present a very different appearance to what they now do, and, upon the whole, our domestic architecture would be much improved; and, instead of interfering with professional men, it would often be the means of preventing the misunderstandings that take place between them and builders and carpenters, through the ignorance of the latter on the subject of architecture.

As a study for the ladies, nothing can be more interesting than that of architecture: it could not, in any respect, injure their health, as with them it would not be a matter of gain. By a little perseverance on their part, attended with a degree of nicety and care, which very few ladies are without, architectural drawings could soon be accomplished; and this art, when once acquired, would be an endless source of amusement to them: one friend would recommend it to another; and, in the course of a very short time, instead of architecture being considered as a study for the few, it would be one for the many; and, if the fine arts did not thrive under such auspices, they certainly never would under any other.

In conclusion, having been induced to offer the foregoing

observations for the purpose of endeavouring to impress upon the minds of all the importance of possessing a knowledge of architecture, if I shall be so fortunate as to succeed in persuading only a few to take up the subject, I shall be delighted to think that I have conduced towards obtaining the long-wished-for successful result. — *London*, 1836.

ART. IV. *Observations on the Average Cost, per Sitting, of Five Churches and Three Chapels, lately erected in the Neighbourhood of London.* By W. S.

A NUMBER of new churches and chapels having been lately erected in London, and a number of others being in progress, I have thought that the following table of the average cost, per

Table showing the Average Cost, per Sitting, in Five Churches and

	Names of the Architects.	No. of Sittings in Pews.	No. of Sittings in Free Seats.	Total No. of Sittings.	Total Cost.
*Names of Churches.**					
St. Anne's, Wandsworth	Sir R. Smirke	426	1332	1758	14,600
Bermondsey Church† -	Mr. Savage -	800	1200	2000	21,000
Norwood Church - -	Mr. Bedford -	470	942	1412	12,400
Brixton Church - -	Mr. Porden -	642	1284	1926	15,200
Kennington Church -	Mr. Roper -	666	1332	about 2000	15,300
Names of Chapels.‡					
New Chapel in Bishopsgate Parish - -	Mr. Meredith	400	800	1200	5200
St. Mary's, Lambeth -	Mr. Bedford -	613	1347	1960	7600
St. James's, Clapham -	Mr. Vulliamy	800	450	1250	6500

* The whole of these churches are built with stock-brick walls, faced with Suffolk white bricks, and stone dressings to the windows, doors, &c.; the greater part of the towers are also cased with stone. All of them have galleries; and the pews are of deal.

† The interior of this church is much richer in design than any of the others; and it has a clere story supported by Ionic columns, with a paneled ceiling; which accounts for the average cost per sitting being greater.

‡ All of these chapels have galleries; but they have no clere story. The pewing is of deal.

sitting, in eight newly built churches and chapels, might be interesting to your readers.

A great item in the cost of the churches is the towers; and it becomes a question worthy of some consideration, whether, in the Grecian style, it would not be as well to leave them out altogether, as, by that means, a great saving would be effected; and, in some instances, a great improvement. It cannot be said, that, in any of the above churches, the towers are an ornament to them, nor can it be said that they are of any important use: consequently, it is to be regretted that architects, who have to build churches in the Grecian style, are not allowed to imitate more closely the Grecian temple, by having columns at the sides in lieu of towers; as such buildings would, at least, be bold, chaste, and uniform.

Three Chapels, lately erected in the Neighbourhood of London.

Average Cost per Sitting.			Remarks.
£.	s.	d.	
8	6	0	In the Grecian style, with a portico and tower.
10	10	0	Grecian, with an Ionic portico of 4 columns, vaults, and a tower.
8	15	6	Grecian, with a Corinthian portico, vaults, and a tower.
7	18	0	Grecian, with a Doric portico of 4 columns, vaults, and a tower.
7	13	0	Grecian, with a Doric portico, vaults, and a tower.
43	2	6	+5, which gives a mean average of 8*l.* 12*s.* 6*d.* for each sitting.
4	6	8	Gothic style, with a small bell turret, and vaults. The windows are plain, having only stone mullions and jambs, and no tracery heads; but the whole is faced with Suffolk white bricks; and about 300*l.* was expended in extra foundations.
3	17	6	Gothic style, with a small turret, and stone spire, and vaults. The windows have tracery heads; but the walls are only faced with common bricks.
5	4	0	Gothic style, with a small tower, spire, crocketed pinacles, and vaults; the windows having tracery heads. The whole of the walls, tower, &c., are of common brick, covered with cement, in imitation of stone; and the timbers of the roof are filled in with richly carved tracery. This chapel, it will be observed, has a much larger proportion of pews.
13	8	2	+ 3, gives a mean average of 4*l.* 6*s.* 8*d.* for each sitting. The mean average of the first two is only 4*l.* 2*s.* 1*d.*

Most of the above churches and chapels were erected about eight or nine years since; and I think similar ones could now be erected for at least from 5 to 8 per cent less.

London, December, 1835.

Art. V. *Candidus's Note-Book.*

Fasciculus I.

I. The advice I would give every young architect (and, how much soever they needed it, none else, I suppose, would condescend to accept it) is: Always go about with your eyes open; that is, your professional eyes: employ them every where. By this means, you may pick up many very useful ideas and hints, which you have no chance of meeting with any other way. Standard productions and works of celebrity cannot be missed: the Parthenon and the Pantheon, St. Peter's and St. Paul's, require no direction-post to guide you to them. But there are a thousand other things which both books and professors consider it quite *infra dig.* either to point out or refer to. In all probability, you will never have to erect a cathedral or a palace; therefore do not prepare yourself too exclusively for gigantic projects, but set about acquiring betimes a store of that kind of invention generally available; and for which, as it is never taught, every one must be his own instructor. Whatever is uncommon, note, let it be ever so bad; and, by so doing, ten to one but you detect that, by different management, something very good might be made of it: at any rate, you will have a useful lesson, since you will see what ought to be guarded against. Many an ingenious contrivance and expedient has been devised for some particular occasion by a village carpenter. Do not on that account sneer at it; at least, not before you are certain that you yourself could have hit upon something much better. Perhaps it may be unsightly and uncouth. So much the better: you will then have an opportunity of exercising your taste, by transforming it into finished elegance, without any one's suspecting the source whence you derived the idea. Even as regards decoration, you may find many things, quite trumpery and contemptible in themselves, capable of furnishing a good idea, which you could get nowhere else. What was originally a blunder, may be improved into a beauty. Note, also, all accidental effects; for you may, at some time or other, be able to bring them into a design, and turn them to account. I remember one day passing through an alley somewhere in the City, expanding into a small court with another passage beyond it, where there was a flight of steps. The effect of light and shade, and the arrangement, were highly scenic and picturesque. What a charming vestibule might be shaped, thought I, out of this!

II. How I do detest houses in which people are born! that is, views of such as are represented on account of no visible interest of any kind they possess, but merely because some individual of note happens to have come into the world within their

walls: and, after all, we are left to conjecture in what particular room the event took place. This very trumpery sort of superstition is carried to a most ridiculous excess by *illustrators*.

III. The expediency of appointing professional men as the fittest judges in competitions for public buildings has been questioned, and is very questionable: undoubtedly, there might be some advantages attending such a practice; yet I do not think they would be sufficient to counterbalance the inconveniences which would result from it. That an architect would not select a design with glaring defects, may be taken for granted; but that he would earnestly recommend any one strongly marked by originality and genius is exceedingly doubtful indeed. What he would chiefly look to would be technical merits; nor would he be likely to desiderate extraordinary ability of any other kind. Can we believe that Mr. Nash, for instance, would have sanctioned with his *ædificetur* any thing affording an injurious comparison with his own precious Buckingham Palace? or that ——, the most commonplace, barren, and frigid putter-together of Greek columns or Gothic windows, would be accessary to the putting an extinguisher upon himself, by giving the preference to a design fraught with taste and imagination, and showing a masterly conception of the subject? If any one can suppose this, he must be exceedingly easy of belief. No: it is better, upon the whole, to entrust decision, in such cases, to persons who, while they are capable of discerning excellence, must be exempt from the suspicion of entertaining any jealousy of it. But no such persons, it will be, or rather it has been, said, are to be met with. That is certainly an awkward matter, yet, at the same time, attended with one mitigating circumstance; because, supposing such to be really the case, and that no other class of persons than practitioners can fairly judge of the niceties of the art (not only its more obvious beauties and qualities, but those more recondite, and which certainly do require some previous study), the art itself must be singularly barren of enjoyment; so much so, that it must have been prodigiously overrated. Neither is it easy to perceive how any one of common understanding can relish or feel what is, it seems, beyond his comprehension: *ergo*, such an argument on the part of professional men hardly stops short of actual *felo de se*.

IV. There are many who would make utility and convenience the test of beauty in architecture: and, most undeniably, we should always strive to reconcile beauty with them; and, again, to make them contribute to beauty of form and character, and to pleasing effect. Still, provided it should not directly militate against convenience, it is worth while to go a little out of our way in order to secure such effects; which, be it understood, are not to be confounded with mere ornament. Nay, if we take the

Greeks for our masters, we shall be warranted in occasionally sacrificing common sense to artistical effect. Of this we have an instance in the enormously high steps, or *gradini*, on which they placed their temples, by way of substructure or basement to the entire edifice. In some cases they must have been about as deep as a table is high, and, consequently, utterly impracticable for the purpose of walking up them after the usual mode. Shall we say, then, that the Greeks, whom we all extol (some of us we know not why) as the most accomplished architects in the world, were, after all, no better than blockheads? Common Sense will reply, Yes; at least, in this respect: yet, with the permission of Common Sense, I incline to say, No. Common Sense is a very respectable sort of person so long as he minds his own business, which is not art; for, as soon as he begins to interfere with that, he generally discovers himself to be only a good-meaning ninny-hammer.

V. I sincerely hope that Klenze will give the world his opinions respecting our public buildings: they would be the more valuable, because likely to be dictated by perfect impartiality as far as concerns the respective architects: and most interesting would it be to learn to what extent he was either satisfied or dissatisfied with Buckingham Palace, the National Gallery, the British Museum, &c.; also what are his ideas of our architectural taste in general. His report, I should imagine, would not be a particularly favourable one; for, judging from the taste displayed by himself in his own works, I suspect he must be of opinion that we copy Greek architecture by far more tamely and coldly than is either desirable in itself, or consistent with artist-like feeling, and ability in adaptation.

London, October, 1836.

ART. VI. *Experimental Essays on the Principles of Construction in Arches, Piers, Buttresses, &c.* By WILLIAM BLAND, Esq. Essay V. *Relative to the Practical Application of these Principles.*

As the principles of arches and piers, &c., given in the preceding essays, from the results of many experiments, are thus far unfolded to view, the correctness of those principles, relative to practical architecture, remains to be shown. This I shall now attempt to do, by applying them to a few of the ancient and modern structures at present existing in this country. The plan of proceeding I have decided upon is as follows:—

First. To select for examples the common barrel drain, the steening required for a well; the masonry of an oven, a few single arches, and a tunnel.

Secondly. To apply them to the architecture of small churches.

Thirdly. To bridges of more than one arch, among which are some of the noblest works of modern days.

Lastly. To examine by them one or two of the most splendid chapels and cathedrals.

When all this is accomplished, the reader, it is anticipated, will be enabled to enquire for himself, and apply the principles here laid down to other architectural fabrics which he may be desirous of examining, whether they are bridges, churches, or cathedrals; and, should any difficulties arise, a few wooden models of arches and bricks, for experiments, will quickly remove them.

The Barrel Drain.—The explanatory diagram (*fig.* 184.) is to a scale of an $\frac{1}{8}$ in. to 1 in. Let *a b c d* be a vertical section of a barrel drain, constructed of 4 in. voussoirs in brickwork, and the opening (*s*) 12 in. in diameter. These structures are placed underground, and have generally a roadway over them.

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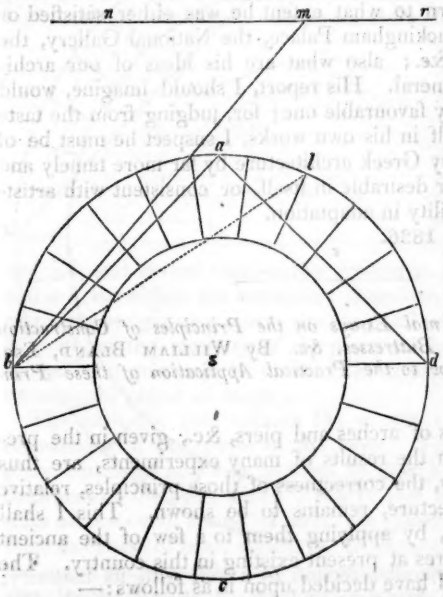

Now, the tendency of a weight passing over the crown of the drain is to compress it; first, into the form of an ellipse, and next into a straight line, after the manner of a hoop; which, while yielding under the pressure of the hand, continues extending its two sides. In consequence of the lower half of the drain (*b c d*) being based on the solid earth, it cannot in any way yield; thus leaving for consideration only the upper half (*b a d*), which forms a semicircular arch.

This arch having the solid earth for its foundation and buttresses, cannot yield outwardly. From *a* to *b*, and from *a* to *d*, draw the straight lines *a b*, and *a d*: these lines fall within the

voussoirs; therefore, the drain will carry any weight placed at *a*, as shown by Ex. Eleventh, Essay II., p. 117. This being a single arch, with deep voussoirs, its weakest point is at *l*; for, when the straight line *l b* is drawn, it lies without the voussoirs; and, therefore, a great weight would cause the arch to fly up between *l* and *b*. It has been before observed, that such drains are placed underground; and, when so situated, they have a portion of soil above them, from 6 in. to 1 ft. or more; if we say 6 in., then the point *l* will be carried up to the line *m n r*, being the supposed surface of the ground. Let *m b* be joined, then the straight line thus formed falls within the voussoirs; consequently, the arch will support, in this case, any weight short of crushing the materials. (See Ex. Ninth, Essay II., p. 115.)

Of the Steening, or Masonry, of a Well, to prevent the Sides from falling in.—The diagram *fig.* 185. is to a scale of 1 in. to 1 ft.

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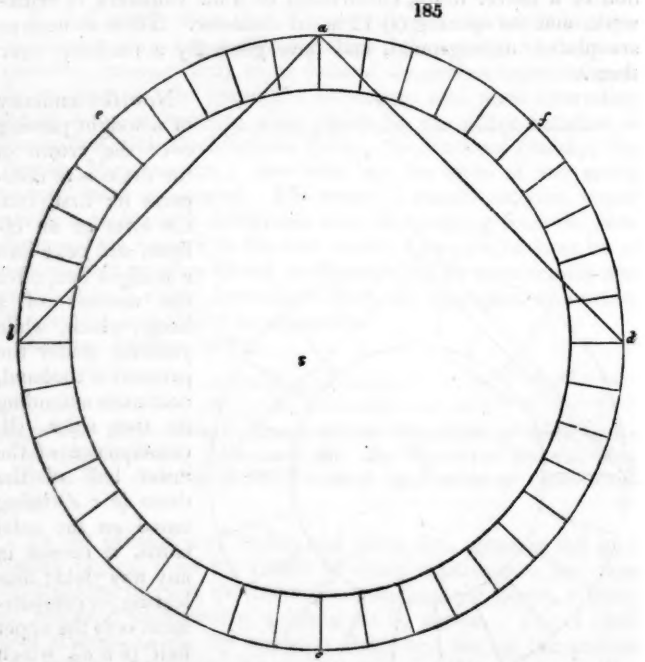

Let *a b c d* be a horizontal section of a well with its masonry; *s*, the shaft, 3 ft. in diameter; and *a b c d*, the brickwork, 4 in. thick, as voussoirs.

Suppose a mass of earth, at the point *a*, were to become loose, it would fall in, but for the masonry. The tendency of the

earth against the steening at *a* is the same as the weight on the barrel drain; namely, to compress the steening in at *a*, and a tendency to cause the sides *b d* to extend outwards: but they cannot extend outwards, because of the immovable bank of earth forming the sides of the well. The steening having these immovable buttresses at *b* and *d*, the part *b a d* may be considered as a semicircular arch. Draw the straight lines *a b*, and *a d*; but, as *a b* and *a d* fall without the voussoirs, the tendency of the pressure at *a* will be to force out the arch-stones at *e* and *f*: here again, however, the effort is resisted by the immovable bank forming buttresses. This would be the case at every point of the steening; consequently, a true equilibrium is maintained throughout the steening against any outward pressure; the truth of which every old well confirms.

Of the Oven.—The scale of the diagram *fig.* 186. is half an inch to a foot. Let *a b d e c* be a vertical section of a common oven; *b a c*, the crown; and *b d* and *e c*, the sides.

This crown, *b a c*, is an arch of 6 in. rise and 3 ft. span, constructed with two courses of 4 in. brickwork, as voussoirs. The sides (*b d* and *c e*) act as piers, and are 14 in. in thickness, and 12 in. high, also of brickwork. From *a*, draw the straight lines *a i*

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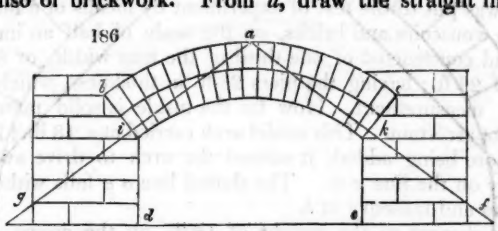
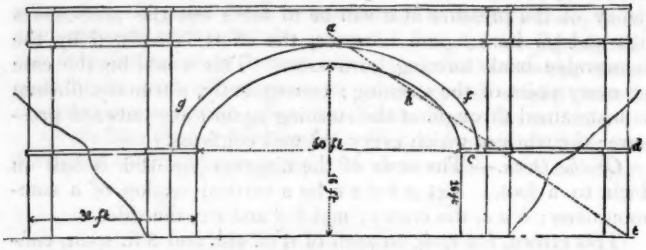


and *a k*, and extend them to the ground at *g* and *f*. Now, *a i* and *a k* lie within the voussoirs; therefore, the arch alone will carry any weight on *a*; but, since *a i* and *a k*, when continued, fall without the masonry of the piers, the latter would be overturned by a great weight on *a*. The strength of the piers then remains the object of enquiry.

The arch *fig.* 146. (Essay IV. p. 408.) corresponds in dimensions with the crown of the oven. This arch balances on piers 7 in. high and 4 in. in base, or nearly double in height the thickness of the base, which is nearly $\frac{1}{4}$ of the span. Now, the sides of the oven, acting as piers, are rather less in height than their thickness of base, which, in this instance, almost equals $\frac{2}{3}$ of the span; consequently, they will support the crown of this oven very firmly, having no great extra weight placed at *a*. The thickness of the masonry of the crown and sides is quite necessary in another point of view; namely, to hold and economise the heat of baking.

Of single Arches.—The new bridge at Loore, near Maidstone, which crosses a valley, is of one arch, and is constructed of stone for the outside casing, having brick in the interior. The dimensions, as nearly as I could obtain them during heavy rain, are as marked in the engraving *fig.* 187., which is to a scale of one eighth of an inch to two feet.

187.



The roadway (*a*) is 24 ft. wide, and runs horizontally over the bridge, the earth at the two ends forming buttresses. This bridge was put to the test of experiment by means of a model of wooden voussoirs and bricks, on the scale of half an inch to a foot, and constructed of one third of the true width, or 8 ft. instead of 24 ft.; having the piers 28 ft. in thickness, which is the outside measurement. How far the inside is solid masonry, I could not ascertain. This model arch carried at *a* 18 lb.; but, on 2 lb. more being added, it caused the arch to drive away the masonry on the line *c d*. The dotted line *a e* falls without the voussoirs and masonry at *h*.

With respect to the weight of 18 lb. on the crown of the model bridge arch, and the proportionate weight on the real bridge, they are as follows:—Of average stonework, about 15 cubic feet go to a ton. Now, in the wooden voussoirs employed, 160 cubic half inches equal $\frac{1}{2}$ lb.; and, for the sake of even numbers, say $\frac{1}{2}$ lb. equals 10 tons. The model arch, then, by carrying 18 lb. supported a weight in the proportion of 360 tons upon one third of the whole arch.

Nothing has here been said respecting the two banks and road, forming buttresses at each end of the bridge: they, of course, contribute very materially to the strength of the structure; because straight lines may be drawn from any part over the arch, that will pass within the masonry and blanks.

The weight which is liable to be drawn over a bridge of this kind may be ascertained thus:—A waggon, on an average, equals 1 ton in weight, and, when laden with 12 quarters of wheat, at 60 lb. a bushel, equals 2 tons 12 cwt.; and, being drawn by four horses, say 8 cwt. each, equals 1 ton 12 cwt.; or, all together,

under 6 tons. Let it be possible for a load to go over the bridge equalling 12 tons; this load would take up one third of the width of the roadway. Now, it has been shown that one third of the bridge will carry 360 tons, or 30 times 12 tons.

With the view of ascertaining what weight the bridge would carry without opening the joint at the keystone, a vessel of paper was suspended in the angle of the joint, being inserted $\frac{1}{2}$ in. up the joint on the outside, and 1 in. along the joint underneath. The arch carried 6 lb. on the crown; but a greater weight caused the paper to fall down by the opening of the joint underneath. Now, 6 lb., multiplied by 20 (the number of tons which 1 lb. in the model represents), gives 120 tons; therefore proving most satisfactorily that the strength of this bridge is many times greater than the weight of any load which can possibly be drawn over it; and this, too, independently of the two banks, which act as buttresses.

Ponty Prydd Bridge.—This bridge, in Glamorganshire, represented by *fig.* 188., which was designed and constructed by an uneducated architect (William Edwards), is of one arch, ex-

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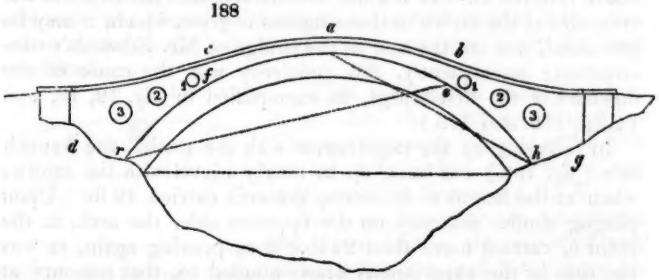

tending 140 ft. in span; the rise, or altitude, being 35 ft. The arch forms the segment of a circle, the diameter of which is 170 ft. It was completed in the year 1755. (See Malkin's *South Wales.*)

The engraving is correct in the proportions of span and rise of this famous arch, having *d* and *g*, the buttresses, of living rock, and therefore immovable. The depth of the voussoirs, or the thickness of the masonry of the bridge at the crown (*a*), is not given by Mr. Malkin. This arch was put to the test of experiment by a model made of wooden voussoirs. The scale being of a quarter of an inch to a foot, allowed 10 ft. for the depth of the voussoirs, which dimension is adopted in the elevation (*fig.* 188.). Now, the arch, so constructed, carried 8 lb. placed on the voussoirs at *e*: more than this weight caused the opposite part of the arch to fly up at *f*. According to the scale of the model, 8 lb. equals 540 tons.

It appears from Mr. Malkin's account, that Mr. Edwards's first bridge of one arch fell down; which was caused, as the architect supposed, by there being too great a weight on the haunches at and between *b g* and *c d*, that forced the crown up. In consequence of this, Mr. Edwards, on the reconstruction, caused holes to be left at 1, 2, 3, to lessen the weight at those parts; and the bridge now stands very well. Whether the depth of the voussoirs, or the thickness of masonry at the crown, was increased or not, there is no mention made. The width of the roadway is also omitted; but the wooden voussoirs in the model, being 4 in., will afford a scale to ascertain the proportionate width of the bridge, which is 16 ft.; and the span of the arch in the model is 36 in., which equals 144 ft. in the bridge, which is nearly right.

It will be seen, by looking back to *figs.* 24. and 25., Essay II., p. 115., which are similar segments to the bridge under consideration, that the haunches, or the additional weight contained in *c k b*, strengthened rather than weakened the arch, particularly when added to both sides, as in the latter figure of the two above referred to. But it must be observed, that the depth of the voussoirs at the crown in those figures is great, which, it may be presumed, was not the case in the bridge of Mr. Edwards's construction; consequently, this deficiency was the cause of the downfall of the first bridge, as exemplified in *Ex.* 12, 13, and 14. (p. 118. and 119.)

In following up the experiments with the model, the haunch at *e* (*fig.* 188.) was built up to nearly a level with the crown; when at the height of *b*, over *e*, the arch carried 12 lb. Upon placing similar masonry on the opposite side, the arch, at the point *b*, carried more than 24 lb.; thus proving again, as was the case in the experiments above alluded to, that masonry at the haunches, when the crown is of sufficient thickness, adds strength to the structure.

Again, an arch (*fig.* 189.) was made of the segment of a circle, the radius of which equalled its span, or 140 ft.; having the vous-

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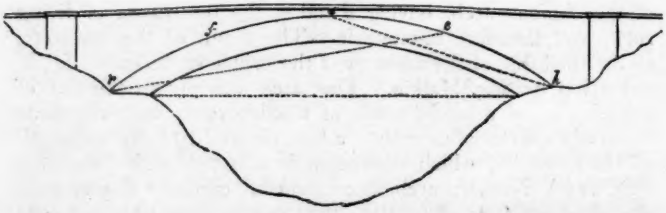

soirs 10 ft. deep as before, in *fig.* 188. This arch carried, at *e*, 16 lb. well. Now, on inspecting these two elevations, the dotted

line *a h*, *fig.* 189., will be found to be quite within the voussoir; but this is not the case with the line *a h*, *fig.* 188.; also, the dotted line *e r* in *fig.* 189. is considerably nearer the intrados than *e r* in *fig.* 188.; therefore proportionally the stronger: or *fig.* 189. would have required less depth of voussoirs or masonry at the crown; therefore, that it has two advantages, namely; greater strength, and an easy ascent for carriages, which Mr. Edwards found out afterwards.

Since much has been said respecting the depth of voussoirs, a trial was made to ascertain what would be the result on substituting a voussoir of 4 ft. in depth in the room of one of 10 ft. This was carried into effect in the model by exchanging the key or crown voussoir for one of only 1 in. in depth, which is equivalent to 4 ft. The diagram *fig.* 190. represents crown portions of the arch, having the dark voussoir to represent the small one, which was first placed at *a*; then in the middle, as in *b*; and, lastly, at the bottom, as in *c*.

On putting the weights at *e*, on the arch *fig.* 188., the results were as follows: — With the small voussoir in the position shown at *a*, *fig.* 190., the arch carried 2 lb.; when the same voussoir was placed as shown at *b*, the arch carried 4 lb.; and when in the position shown at *c*, 8 lb. was the weight the arch sustained.

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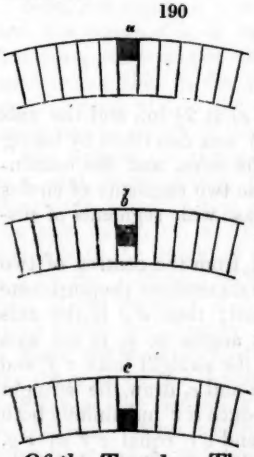

When the weights were placed at *e*, *fig.* 189., the results were thus: — The small voussoir being at *a*, the arch carried 3 lb.; when at *b*, 6 lb.; and in the position shown at *c*, 12 lb.

Now, on removing the weights to the crown over *a*, the results of both arches (*figs.* 188. and 189.) were inversely of those given when the weights were at *e*, by the arch carrying the most when the small voussoir was in the position shown at *a*; and the least when the same voussoir was placed as shown at *c*.

We have here a strong proof of the propriety of the keystone of arches fitting closely at all parts of the adjoining voussoirs.

Of the Tunnel. — The objects for which tunnels are constructed are usually for the purpose of thoroughfares underground, as through hills, &c.; for man alone, for carriages and horses, for canals, and for railroads.

The figure of a man, and his loads, at once determine the requisite form; namely, the oval or elliptic. It is well known

that an egg will sustain, without breaking, very great force of pressure when placed endways between the hands: yet the shell is particularly thin. From this fact it appears, that nature's form of the egg is the form best adapted to a tunnel. The dimensions of an egg are $2\frac{1}{8}$ in. for the greater axis, and $1\frac{5}{8}$ in. for the smaller axis; or, the axis major is to the axis minor as 17 is to 13. The diagram *fig.* 191. is described after these proportions.

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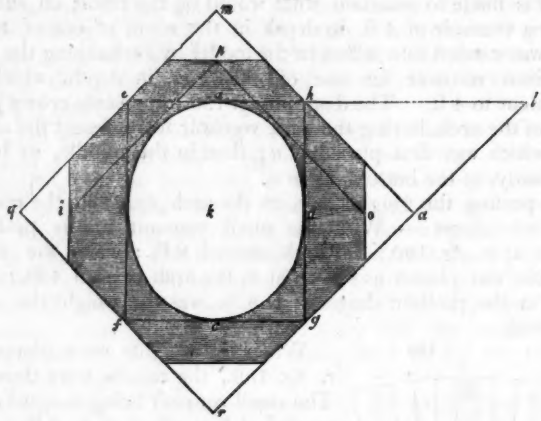

Having laid down the axis major (*a c*) at $2\frac{1}{8}$ in., and the axis minor (*b d*) at $1\frac{5}{8}$, the ellipse (*a b c d*) was described by taking $\frac{2}{3}$ of the axis major for the radius of the sides, and the remaining $\frac{1}{3}$ for the radius of the ends. These two segments of circles coincided exactly, which was not the case with segments of dissimilar radii.

Let *a b c d* be the ellipse described from the centres of two circles, instead of two foci, making the dimensions proportionate to the natural size of the egg selected; then *a c* is the axis major, and *b d*, bisecting *a c* at right angles at *k*, is the axis minor. At the points *b* and *d*, draw the straight lines *e f* and *h g* parallel to *a c*; and at the points *a* and *c*, draw the straight lines *e h* and *f g* parallel to *b d*. Produce *a c* indefinitely both ways, and let *a m* equal *a e* or *a h*; and *c r* equal *c f* or *c g*. Join *e m*, *m h*, *f r*, and *r g*. Produce, likewise, *b d* indefinitely both ways, and let *d n* equal *d h* or *d g*; and *b q* equal *b f* or *b e*: join *h n*, *n g*, *f q*, and *q e*. Now, in the triangle *a e m*, the angle *a e m* equals the angle *a m e*: and the angle *e a m* is a right angle; therefore, the angle *a e m* equals 45°. In like manner, it may be shown that the several angles *a h m*, *d h n*,

and *d g n* equal 45°: also, the same may be shown in the triangles *g r f* and *f q e*.

In Experiment Tenth (p. 116.) it is proved that masonry forms a natural arch at the angle of 45°, and will carry a heavy weight on *m*, *fig.* 27. (p. 116.), because of the straight line *m a*.

If this be the case with masonry, the law with regard to the pressure of solid earth must be similar; and the weight to be borne on the arch at *a*, *fig.* 191., equals the triangle *e m h* in perpendicular pressure. As respects lateral pressure, it is known that a bank of earth will just support itself when inclined at an angle of 45°. Produce *e h* and *g n* until they meet *a b*. Let *g n l* be a plane inclined 45°; and let *g h l* be a mass of earth resting upon this inclined plane, and, consequently, pressing against *h g*. If the straight line *l g* represent the force of this body of earth, it may be resolved into the two straight lines *l h* and *h g* (See Wood's *Mechanics*, Prop. II.): but *h g* is parallel to the side; therefore, *l h* is the force which alone acts against the side. In the two triangles *h g n* and *h l n*, it may be easily proved that *l h* equals *h g*; and the triangle *h g n* equals the triangle *h n l*; therefore, we have the triangle *h n g* representing the proportion of earth out of the whole body contained in the triangle *h l g*, which alone presses against the side *h g*.

Now, *a m* equals *a e*, or equals the half of *b d*, the axis minor; and *d n* equals *d h*, or equals the half of *a c*, the axis major; therefore, the triangles *e m h* and *h n g* are to each other in the same ratio; that is, the pressure of earth at *a* is to the pressure of earth at *d* as the axis minor is to the axis major. The same may be shown of the pressure at *b* and *c*.

Just without the ellipse, draw the straight line *p o* parallel to *m n*, and, consequently, cutting *a m* and *d n* proportionally in the points *p* and *o*: that is, *a p* is to *d o* as the axis minor is to the axis major, or as the weight of the earth in the triangle *e m h* is to the weight of the earth in the triangle *h n g*. Let *a p* be the thickness of the masonry at *a*; and *d o*, the thickness of the masonry at *d*: we have then the straight line *p o* lying within the masonry.

Since the masonry surrounding *d c b*, which is represented in the diagram by the shaded part, rests on the solid earth as the foundation, the remaining part, or the arch *b p d*, need only be considered. With regard then to this part of the arch, we have at *i* and *o* two immovable buttresses in the side earth, with the straight lines *p i* and *p o* lying within the masonry; therefore, the tunnel will bear any weight on *p*.

Again, the masonry at *p* is immovable upwards, from the resistance of the solid earth above; therefore, the arch, at *o*, is capable of supporting any pressure of the side earth, should it

be disposed to slip in. The same may be shown of the points *e f* and *g h*, in consequence of the straight lines *e h*, *h g*, *g f*, and *f e* being within the masonry. A tunnel, therefore, constructed of this form and masonry, will support itself against any pressure.

ART. VII. *Design for a Lodge in the Italian Style.* By EDWARD BRIGDEN, Esq., Architect, Bristol.

THE lodge, of which *fig.* 193. is the elevation, is designed in the Italian style, as an appropriate appendage to a villa in the same style: for I think there should always be a correspondence between the entrances and the house itself.

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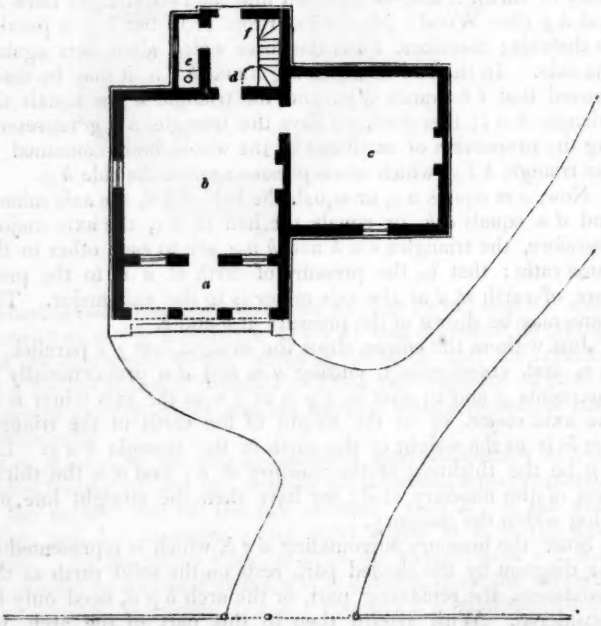

The present design may be executed in brick, and stuccoed on the outside; or, if Bath stone could be obtained at a reasonable rate, it should be preferred. The roof should be slated, and the floor boarded; for boarded floors, in most situations, last longer than stone, to say nothing of the additional comfort produced by boards, which in buildings of this nature should

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never be lost sight of. The sashes may be in metal frames, for the sake of lightness. The plan is very simple, and will easily be seen by reference to *fig.* 192.; in which *a* is the porch; *b*, the living-room; *c*, the bed-room; *d*, the washing-place; *e*, the water-closet; and *f*, the staircase, which leads to a room in the tower, or belvedere, which may be used as a store or bed-room.

REVIEWS.

ART I. *The History and Antiquities of the Vicar's Close, Wells.* Forming Part I. of Pugin's *Examples of Gothic Architecture.* Third Series. By T. L. Walker, Architect, Honorary Treasurer of the Architectural Society, London. With 26 plates. London, 1836.

"A LASTING debt of gratitude," says Mr. Noble, in his recently published work on *The Professional Practice of an Architect*, &c., "is due to Messrs. Pugin for their laborious measurements and details of various examples in their useful works upon ecclesiastical, collegiate, and domestic Gothic." Most fully assenting to the above opinion (which, we presume, must be that of every one capable of appreciating the tasteful execution and fidelity of the numerous studies of Gothic architecture delineated by the late Mr. Pugin), it has given us unfeigned satisfaction to perceive that the latest and most valuable of his labours has found able continuators of it in his son, and Mr. T. L. Walker, his pupil. In the portions published since his decease, there has been no falling off from the spirit of the preceding ones in any respect; certainly not as regards the interest of the subjects; for, although some of them are not so generally applicable as were those exhibiting the more familiar and well-known features and

peculiarities of the Gothic (consequently, those more in request with the mere copyist), they recommend themselves still more strongly as specimens, no less remarkable for the quality and taste they exhibit, than for their rarity. Neither shall we consider them the less welcome, when we know that some of the choicest of them were, even at the time the drawings and measurements were made, so greatly injured by neglect and decay, or by mutilation and alterations of the most barbarous kind, that it would have been impossible for any one less intimately acquainted with Gothic architecture, and also with construction and execution, to trace, not the general forms alone, but the most complex minutiæ of detail. If, therefore, almost the rudest and most misshapen sketch be almost inestimable in the eyes of the antiquary, as a memento of some "fayre building," now destroyed, how incalculably precious ought such works as the present to be held! which preserve not merely the outward lineaments of the buildings in all their perfection, but also completely reveal the most intricate forms; thus making us acquainted with the means by which all the peculiarities of character were produced, and showing how the architects of those days conceived and wrought their works.

To form a worthy idea of old St. Paul's, and other ancient structures, from the prints of Hollar, requires a strong effort of the imagination; for, unfortunately, those who lived nearest to the times when they were erected seem to have been greatly deficient in the qualifications necessary for an architectural draughtsman. Even when their representations may be tolerably correct, they never appear so, owing to the tastelessness, as well as coarseness, which they exhibit. Were they, however, irreproachable in themselves, the architect would require much fuller information than we pretend to give, before he could clearly understand what is so shown; and this is, almost without exception, the case with every thing relative to Gothic architecture, before Mr. Pugin began to do for that style of the art what Stuart and others had done for the Grecian. Particular features were occasionally shown at large, but hardly any single one was made out completely; so that, although they might serve well enough to make us acquainted with general forms, they were very inadequate for further purposes of study, as any one would be convinced, were he required to make out from such drawings, of a door or window, for instance, all that is not represented in the elevation, and a few partial details of ornament. Well, therefore, may we credit the anecdote related of a late eminent architect (by Mr. Wilson, in a note at page xxi. of Pugin's *Gothic Specimens*), who once exclaimed, "I hate the Gothic style: one window costs more trouble in designing it than two houses ought to do:" certainly more than half a dozen modern Greek por-

ticoes do; notwithstanding that Mr. Hamilton asserts a Gothic window to be only a triangular hole in a wall.

Superior as it is to any thing which had preceded it, even that work of Mr. Pugin's just mentioned suffers by comparison, for exactness and fulness of representation, with his latest one, the value and interest of which is not a little enhanced by its consisting of buildings hardly ever before delineated architecturally, and those, too, of a class for which authentic documents were much wanted. Models of the ecclesiastical style may be met with in every part of the kingdom: with good specimens of domestic buildings the case is widely different; neither are they so accessible, nor so entire, that the architect, supposing he knows where they are, can examine them with much benefit.

Of this we have but too much proof in those of the Vicar's Close at Wells, which are now so miserably dilapidated and injured, that it is most probable in a few years the present work will be a record of what will utterly have perished: indeed, it may be said to have nearly vanished already.

"It would naturally enough be supposed," observes Mr. Walker, in the historical chapter to his volume, "after so munificent a gift by the founder, and so many valuable additions to the temporalities and comforts of the inhabitants by subsequent benefactors, that a true spirit of gratitude would have been manifested among the succsseors of those immediately receiving so sumptuous an asylum, with many other benefits; and that their first care would have been to retain, as much as possible, the pristine beauty of the several buildings composing their college, and delineated in the following plates. But, alas! how lamentably the reverse of this has been the case! for no one who was not intimately acquainted with the peculiarities of the various styles of Gothic architecture, and able to discover, from the present ruinous condition of the exquisitely carved work, what it originally had been, would persuade himself that these were faithful representations of the Vicar's Close. The chapel he would find in disuse, and filled with lumber; the ceiling of the hall hanging down in large patches; the rooms under it converted into a malting-house; the houses modernised with common sash windows, bastard Italian doors, and plain parapets; and a common shop front, within a few short weeks, inserted under the beautiful little oriel window, shown in Plates V. and VI., at the very entrance to the Close from the street; and this by one of their own body, as if in positive defiance of the advocates of good taste and a proper feeling of reverence. The elegant pinnacles and paneled parapet of the gallery over the Chain Gate are so completely decayed and ruinous, that the loose stones threaten danger to the passers-by; and the profiles of the mouldings are hardly discernible."

This is a pitiable picture enough; and the recent act of wanton defacement, by putting in a shop window beneath the oriel, shows that there exists more of inclination to destroy, than to restore, or preserve from further decay; and that, too, at a time when so very different a spirit has been manifested elsewhere by the restoration of the "Ladye Chapel," Southwark, and Crosby Hall. We think that on every interpolation, the names of spoliators and defacers should be publicly recorded *in terrorem* to others; for, although persons cannot be restrained from exercising a legal

right, even when their sordidness or their caprice induces them to destroy objects of public interest, they ought to be made to know that, by so doing, they incur the danger of a most unenviable celebrity. Thanks, however, to the active zeal and skill of Messrs. Pugin and their *collaborateur*, Mr. Walker, this truly interesting series of buildings is not only rescued from perdition, but restored in all their original beauty and integrity. Nor would it be easy to point out one which supplies so many features and bits of composition well suited for adaptation to domestic buildings, of a public as well as a private character; such as almhouses, hospitals, schools, &c., for which class of structures the Gothic of the latter half of the fifteenth century peculiarly recommends itself.

The Close Hall, or Chain Gate, as it is called, erected by Bishop Beckington, who held the see from 1443 to 1664, is, with the gallery over it, leading from the Common Hall to the staircase of the Chapter House, a remarkably elegant specimen; and there is something very unusual in the windows immediately over the gate; for, while each forms internally two distinct apertures, externally it presents the appearance of a single window, divided by mullions into three compartments; the centre one being occupied by a canopied niche containing a statue. The chapel, which, with the library over it, occupies the farther or northern end of the close, exhibits many interesting studies of detail, particularly the door and doorway, which, although not floridly decorated, are of rich design. This chapel, being only a moderate-sized, and by no means lofty, room, a mere parallelogram in its plan, seems to offer a good model for Protestant places of worship, and shows how much more character and propriety may be obtained by a few well-selected and carefully finished parts, than by ambitiously aiming at what belongs to large and complex buildings, and which, when transferred to modern churches, is generally so ill-managed, that the whole has a stinted and impoverished look. The Vicar's houses cannot be recommended for their convenience as dwellings, nor for any contrivance they exhibit internally; but in their elevations, and all that appertains to style, there is much to admire, and much which the skilful architect may turn to account, not as a mere plagiary, but by intelligently availing himself of the ideas and hints thus supplied.

This first portion of the third series of the "Gothic Examples" forms a separate work; and, if not so miscellaneous as any of the preceding ones, we do not esteem it the less on that account, inasmuch as it affords complete elucidation of the buildings, both internally and externally. The execution of the plates is highly creditable to Mr. T. Bury, who, if now at little more than the beginning of his career as an architectural engraver, promises to

become one of the very best in that peculiar department, having been long a proficient in architectural drawing. In fact, the publication is every way worthy of the series which have preceded it: and higher praise than this will not be required from those who are acquainted with them. The only thing which we object to is, Mr. Walker's intention to terminate it in two other parts: yet even this objection will vanish, should he afterwards prosecute an undertaking, to which he shows himself so adequate, under any other title or form.

ART. II. *A Collection of the most approved Examples of Doorways, from Modern Buildings in Italy and Sicily*, &c. By T. L. Donaldson, Esq., Architect; Honorary Secretary to the Institute of British Architects, &c. 4to, 22 pages of letterpress, and 30 plates. London, 1836.

(*Continued from* p. 324.)

IN our notice of the first volume of Mr. Donaldson's valuable work on doorways (p. 319.) we gave a general opinion of the merits of the second volume; and we shall now enter more at length into its details. The volume now before us is dedicated to the president and members of the Institute of France, by their colleague, the author; and the first chapter contains a sketch of the history of Italian architecture, from its revival to the time of Palladio. During the Roman republic, brick was the principal material used in buildings, with few exceptions; such as the Cloaca Maxima, and some of the temples and fora (market-places), at Rome. From the time of Augustus to that of Trajan, architecture flourished: afterwards it declined, till, at the time of the irruptions of the Goths, it had fallen from its ancient majestic simplicity, only to be degraded still farther under the Lombards; when, as Mr. Donaldson observes, "want of proportion, irregularity of design, and caprice in decoration, prove to us that good taste was entirely lost.

"During the darker ages, men of science in the art were unknown: the mechanic, by his practice, acquired a few principles, which were now and then acted upon with additional success by someof superior mind; and, as those were times of war and tumult, the military art occupied the principal attention of even that small portion of science which then guided the operations of builders. Then were the sister arts devoid of their natural charms. In the paintings of those days, the figures were without proportion, without drawing, without colour, without shadow, without attitude, without invention or composition; surrounded by a dark outline, with large and fearful eyes, long tapering fingers, feet closed, and altogether repulsive by their flinty hardness: thus, also, was it with architecture. The edifices were overpowering masses of solid materials, with mean openings, heavy dressings, devoid of proportion, beauty, and comeliness; irregular in plan, and dark, gloomy, monkish, and terrible as the untameable republicans that dwelt therein." (p. 2.)

Giovanni da Pisa, in the fourteenth century, made a great advance in architectural taste; but to Filippo Brunelleschi, who died in 1444, was reserved the honour of reviving in Europe that taste for the classic productions of this art, which for ages had lain dormant. This architect was the designer of the principal of those remarkable places in Florence, which no one can forget who has ever visited that city. They exhibit immense elevations, characterised by small openings, strongly marked rustic divisions, diminutive ornamental details, and the whole crowned by immense far-projecting cornices. The house of every man of rank in Florence was, at that time, his castle; and the exterior presented, accordingly, a strong, a sombre, and a gloomy aspect.

"The simple lines of the portal of the palace Strozzi, for example, with its uninterrupted dressings, circular head, and rustic border, oppose a noble character and firm resistance to the assailant; nor do the small openings, which afford a spare light to these chambers, diminish the strength of this floor. The piano nobile admits more lightness of appearance in the windows, which are of the Venetian school: but still the ample rustics preserve, though in a less decided manner, the robust character of the basement. Here the angles are not suggested to be weak by a useless projection, but the uninterrupted lines of the dressings and of the string course carry on the eye, with calm continuance, to the end. [This is just and valuable criticism, well deserving the attention of the young architect.] The upper floor is a repetition, in point of division, of the piano nobile; the rustics, however, do not project so much, but bear the same gradational proportion of character as those on the piano nobile do to those of the basement. Nothing less than an imposing mass of cornice should crown so noble a building. Here a certain richness of effect enlivens the simplicity of the other parts of the elevation, though the bold projections and grand divisions of the mouldings and plain faces keep up the dignity of the place. The eye thus ends its survey with satisfaction; undisturbed by gaudy detail, unembarrassed by useless matter; and the progressive increase of unmixed feeling affords pleasure and interest, tending even to ennoble the sentiments of the beholder." (p. 3.)

Leon Battista Alberti, a Florentine architect, was the designer of the Palazzo Rucellaj, which Mr. Donaldson signalises as "a specimen of the style of architecture very generally adopted by the Cinquecentisti, by which term are distinguished the architects of this age, an epoch very important in the art.

"The façade, still incomplete, was intended to be composed of seven interpilastrations. The basement is raised upon a podium, which, on the outside, serves as a seat for the retainers of the prince and the weary passenger. This lower floor is decorated with a complete Doric order; having square windows, with appropriate dressings between the pilasters; and the face of the wall throughout the front is intersected with sunk chasings. The piano nobile displays a Corinthian, the pilasters of which are adorned with a capriciously elegant cap, and the base standing immediately upon the cornice beneath, without any intermediate podium, or plinth. The windows are circular-headed, and divided into two compartments by a small column. The upper story has also pilasters, with their own proper caps, surmounted by an entablature, which in dimensions is a mean between that appropriated to the pilasters it crowns, and one which would be required to accord with the whole height of the edifice. The windows of the third floor are precise copies of

those in the second. The great art in the palace has been to give little relief to the projections of the pilasters, entablatures and dressings to the windows; so that even the subdivision of the building into such small compartments should not destroy the breadth of light upon the mass of the building; or, that the apparent effect of the building should correspond with the real mass, and not be destroyed by its subdivision into such small parts. In this production there is a calmness, modesty, elegance, and deliberate caution, which, if they do not quite compensate for the absence of higher effects, never grossly offend, nor can ever be regarded without pleasurable emotions. His church at Mantua, which is more striking in its effect, possesses great originality of invention, is imposing in its elevation, grand and well proportioned in the interior." (p. 4.)

The Cinquecentisti, in their painting, sculpture, and architecture, no less than in their literature, are distinguished by what is technically called dryness of style, of which term this may be considered as Mr. Donaldson's explanation: —

" With singular felicity, they seem to have seized upon the purer elegances of the antique models, and to have devoted most of their attention to the study of the most minute parts. But this servile attention to minutiæ appears to have cramped their creative powers, and the productions of the Cinquecentisti are to be admired rather as pure applications of what has preceded them, than as vigorous emanations of original genius. The predominating principles of Bramante's idea of architecture is breadth. He therefore lays down in his composition a great mass. To diversify this, he introduces slightly projecting orders, which, in their whole, as well as their parts, he preserves also small, to serve as contrast. These orders are elegantly profiled; though it is to be remarked that they are too much portraits of each other. His openings are also very small, in order not to destroy the effect of his mass. These details produce an incongruous medley of nobility and meanness: dry in effect, hard in detail. All the elevations of his palaces appear like neat architectural drawings, unshadowed, with the under lines of the cornices and one side of the perpendicular projections marked with a thicker line. His courts, however, are very elegant and effective. There is this great defect in Bramante's buildings, that not one of them is soundly built. All his constructions are falling in some part or other, and only kept together by iron ties, put in since his time. The noblest of Bramante's works is the court of the Belvedere at the Vatican, where he has displayed much ancient magnificence, by means of grand flights of steps, uninterrupted lines of statues, pedestals, and fountains." (p. 5.)

" Verona has produced an architect, whose productions, little known in England, are the chief embellishments of this antique city. Michele Sanmichele, after studying the first principles of the art under his father and uncle, went, at sixteen years of age, to perfect himself by the study of the antique edifices of Rome; and not only excelled in civil architecture, but in the tactics of the military architecture of his time. To Sanmichele are the moderns indebted for the invention of military architecture and fortification as now followed. Before his time, the bulwarks were round and square. He it was who changed this system, and invented the triangular, or, rather, pentangular, bastion, with rectilinear faces and flanks; which double the defence, and not only flank the curtain, but all the face of the next bastion, and clear the ditch and covered way. The secret of this art consisted in defending every point from the flank. Many of the Greek islands, some cities in the Greek Peloponnesus, and numerous cities of Italy, were fortified by him." (p. 6.)

" That colossus of painting and sculpture, Michael Angelo Buonarotti, because he excelled in these arts, has been considered, also, as equally eminent in architecture: this name is continually cited, as that of one of the

restorers of architecture. The mind of Buonarotti was capable of magnificence and overpowering sublimity as a painter and sculptor; but, as an architect, he was ignorant and capricious, of bad taste, tending by his example to retrograde, instead of advancing, the art. We have, unfortunately, too many examples of his vicious style. The chapel in San Lorenzo, and the Medicean Library in Florence, evince how far Michael Angelo was deficient in the very grammar of the art. Who, that examines this latter production, can call, with any degree of reason, Buonarotti a good architect? In the vestibule, we see columns, instead of forming the principal features of the composition, used as mere ornaments sunk in niches; and, to prove the greater absurdity of their decoration, supported upon consols. The door is devoid of grace, breadth, and grandeur; the windows distorted by terminal pilasters, and other heavy incongruous dressings." (p. 7.)

We pass over several pages of highly interesting matter, correctly and elegantly expressed, to give the author's conclusion; which, from the descriptions and criticisms it contains, we think, may be termed the most instructive history of Italian architecture that has yet been published. Mr. Hope and other writers have gone much more into detail; but Mr. Donaldson, by giving a condensed view of the subject, by passing over many historical particulars of little interest out of Italy, and, above all, by his investigation of the causes by which bad or good effects have been produced, has made his work one which may be read with profit by every architect of reasoning taste.

" In considering the preceding summary of the state of architecture during the period of about two centuries and a half immediately previous to the time of Palladio, we perceive, in the middle of the thirteenth century, a glimmering of light, which first began to dispel the obscurity that had clouded the productions of these dark ages, and which was completely dispersed by the powerful genius of Brunelleschi. The efforts of this great man were seconded by the example of Alberti, who founded his elements upon the contemplation of the antique, and the study of Vitruvius, the valuable writings of whom were then for the first time restored to the world. The Roman author was, in fact, of great service; for the authority of a classic, at the time when literature began to influence so materially the pursuits of man, was undeniable. We are not to consider, however, that the architects of the fifteenth century were indebted to Vitruvius alone, but also to a profound research among the valuable ruins of ancient magnificence. Vitruvius himself was not a good architect; and his books can only merit attention when, by a judicious selection from the ancient authors, he is entitled to our confidence. In those parts where he has introduced systems of his own, and descriptions of his own compositions, we recognise a want of correct taste. Let not our praise, however, be withheld from him, as a man of integrity, and as asserting the honour and respectability of the art. An admirable strain of moral feeling reigns throughout his poems in particular: to them we may safely attribute that frankness, independence, liberality, and disinterestedness, which generally distinguishes the character of the professors of those times, as recorded by Vasari, Temanza, Milizia, and other historiographers of architecture. To Alberti succeeded Bramante, who was seldom, if ever, guilty of any glaring inconsistency, yet, from excess of modesty, never was free from dryness, nor ever attained any sublimity of effect, except in the Vatican. Peruzzi had more feeling for form, yet was deficient in the composition of his general masses; but the Sangalli first boldly dared to try the effect of marked projections, and, in conjunction with Sanmichele, released the minds of the architects from the trammels of that dry pedantic style, whose only merit was

in being scholastically pure, not decidedly incorrect, yet had not the virtue of employing the bolder contrasts of deeper chiaroscuro to dignify its productions. At this time, we recognise that the following improvements had taken place: — The orders were well understood in their proportions and divisions, as also the beauty of isolated columns (arches over columns were exploded); a variety of forms was introduced in the churches and palaces, and the distribution of edifices in general was more dignified. (*Milizia Roma delle Belle Arti*, p. 178.) Architecture was next in danger of being quite perverted by the bold attacks made by Michael Angelo, Giulio Romano, and the other painter architects of that day, upon those first principles on which are founded all the reasonings of pure design. But the good taste of Sansovino, the writings of Serlio, but, more than all, the irresistible genius of Vignola, again restored the studies of the architects to those models, a departure from which ever produces the debility, corruption, and annihilation of Italian art. In quoting the names of Vignola, Serlio, and Ligorio, who flourished many years at the same time with Palladio, I consider myself authorised to suppose their works, which Palladio must have studied, as contributing to influence his taste. The interval of ten or twenty years, though inconsiderable in the annals of a nation, produces a material difference in the memory and progress of individuals. It was under such favourable circumstances, and with a happy predisposition for the pursuit, that Andrea Palladio entered upon the study of architecture. It is to be regretted that we have no certain information with respect to his youthful studies, other than those few scattered allusions in his own writings, but which refer so little to former occurrences, as to leave us almost entirely ignorant of this most interesting period of the life of any man who has risen to eminence. Vitruvius and Alberti seem to have been the leading masters for whose works Andrea entertained the greatest respect, and to whom he acknowledges himself indebted. But, for the more practical illustration of the theories of these writers, Palladio devoted his attention to the indefatigable and most profound study of those Roman antiquities, which flourish ever in their old age, and to which the accumulation of centuries seems to add fresh charms. The genius of Palladio does not appear to have been calculated for domestic architecture. He has rarely seemed to feel the difference which exists between private edifices and public buildings. In the elevations of his houses, the large gigantic orders create unpleasant effects; sometimes extending up the whole façade in colossal proportions; at others, standing on a lofty basement; and not unfrequently raised on projecting unconnected pedestals, as though hoisted on stilts. On the other hand, the public edifices of Palladio, when unrestrained by the caprice of his employers, or the habits of his contemporaries, take the first rank among modern productions. The Redentore and the Convento della Carità at Venice, and the Olympic theatre and Basilica at Vicenza, announce a man of enlarged ideas, master of ancient usages, capable of appreciating and producing the sublime, and alive to the effect of every minute detail. By his writings, as well as by his buildings, Andrea has influenced more than any other master the style of architecture since his period; and, as a style, the productions of the Palladian school can be considered as inferior only to the magical works of the ancients." (p. 14.)

Chap. II. is a description of the plates, which are, as follows: —

Plates I. and II. Doorways of the Riccardi and Strozzi Palaces, Florence. III. Doorway in the Piazza San Firenze, Florence. IV. Doorway in Farnese Palace, Rome. V. Doorway from the Piazza della Madonna Loreto. VI. Doorway from the church of the Madonna delle Carceri, Prato. VII. and VIII. Doorway of San Giovanna Laterano at Rome, and the details of the preceding plates. IX. Doorway from the palace Massimi at Rome. X. and XI. Doorway from the cathedral at Vicenza, and details of the two pre-

ceding doorways. XII. Doorway from the Capitol, Rome. XIII. and XIV. Doorway of the Stefanoli Palace, Rome, and details of the two preceding examples. XV. and XVI. Doorway from the Oratorio of San Marcello, Rome, and details. XVII. and XVIII. Door in the Farnese Palace, Rome, and details. XIX. and XX. Doorway forming the principal entrance to the Palace Massimi, Rome, and details. XXI. XXII. and XXIII. Doorway to the Chiesa San Michelo in Bosco at Bologna, and details. XXIV. and XXV. Doorway from the church of Santo Spirito at Florence, and details. XXVI. Doorways from Palermo and Messina, Sicily. XXVII. and XXVIII. Gateway of the Farnese Gardens in the Campo Vaccino, Rome, and details." (p. 22.)

La Société libre des Beaux Arts de Paris, of which Mr. Donaldson is a corresponding member, after submitting the first volume of this work to the examination of M. Biet, Architect, awarded him a medal in 1835. (See *Recueil Indust.*, 2d ser. tom. ii. p. 28.)

ART. III. *Plans, Elevations, Sections, Details, and Views of the Cathedral of Glasgow.* By J. Collie, Architect. Folio. London, 1835.

WE noticed the first part of this work in p. 88., and have now to announce its completion, in one imperial folio volume, consisting of seven pages of letterpress and thirty-four plates. The drawings on the plates are on so large a scale, that they cannot fail to be of much use to practical men. That the church contains many original features, and well deserves the study of the architect, may be affirmed on the authority of the following passage, quoted by Mr. Collie from Mr. Rickman: —

"Glasgow Cathedral," he says, "is a large and fine cross church, with remarkably short transepts. It has a towering spire at the intersection, and another tower at the west end of the north aisle. The nave and ailes form one church; the choir and ailes, another: the transepts and a part of the nave are open as a vestibule for access to each church. The general character of the church is early English, very excellently designed and executed; and, although some part of the work is of later execution, the same style is well kept up. At the end of each transept are additions, now in ruins. On the north side of the east end of the choir is the chapter-house; and beneath it and the choir, the crypt. The composition of the nave and choir is different, but each very good. In the choir, the capitals of the piers are flowered; in the nave, plain. Those in the choir very much resemble some capitals in the transepts at York Minster, and are equally well executed. The west door, now stopped, is one of great richness and beauty, and bears a strong resemblance to the doors of the Continental churches; being a double door with a square head to each aperture, and the place above filled with good niches. The general design of the doorway is French; but the mouldings and details, English. There is an organ screen at the entrance into the choir, and one or two ancient monuments. The crypt, under the choir and chapter-house, is not equalled by any in the kingdom. It is, from the fall of the ground, well lighted, and is an uncommonly rich specimen of early English. The piers and groining are of the most intricate character, the most beautiful design, and excellent execution. The groins have rich bosses, and the doors are much enriched with foliage and other ornaments; the piers have fine flowered ca-

pitals, much like those in York. This church, like many others in Scotland, is not known or studied so much as it deserves to be."

The plates contained in this work are: — 1. Niche in crypt, beneath chapter-house. 2. Cathedral of Glasgow from the Necropolis. 3. Plan of cathedral. 4. South elevation of nave. 5. South elevation of transept and choir. 6. East elevation. 7. Great western doorway, &c. 8. Transept, with parts of nave and choir. 9. Spire. 10. Transverse section through choir and crypts, looking east. 11. Longitudinal section of nave through the centre aile. 12. Longitudinal section through choir, Ladye Chapel, crypt, &c. 13. Windows, &c., in nave. 14. Details from nave, &c. 15. Organ gallery and doorway to choir. 16. Organ gallery details, &c. 17. Western elevation. 18. Interior of cathedral from the west. 19. From crypts. 20. Ladye Chapel. 21. Compartment in Ladye Chapel. 22. Details of Ladye Chapel. 23. Blackadder's Aile. 24. Chapter-house details. 25. Plan of crypts. 26. Doorway to crypt beneath the chapter-house. 27. From crypts, &c. 28. South entrance to crypts. 29. Capitals of main pillars of choir. 30. Bosses. 31. Crypt under Ladye Chapel, Jociline's tomb, &c. 32. Nave from south transept. 33. Descent from nave to the main crypt. 34. Chapter-house, looking south.

It is almost unnecessary to add, that Mr. Collie has rendered an important service to the architectural world by this publication.

ART. IV. *Ornaments in every Style of Design, practically applicable to the Interior of Domestic and Public Buildings, and intended for the Assistance of the Architect, Builder, Upholsterer, and Decorator; manufactured in Papier Mâché; comprising Examples used by the most eminent Architects of the present Day in the Erection of public and private Edifices.* By Charles F. Bielefeld, Modeller, 18. New Road, Fitzroy Square. 4to. London, 1836.

WE have before expressed our high approbation of this work; the fourth series of which contains numerous ornamental designs, on the importance of which to the improvement of architectural taste we have much to say, when we can find leisure and space. It is a very common idea, that, if London houses were built of stone, and at ten times their present expense, they would be more durable: though this is very doubtful; for it is well known that mortar and stone will not unite nearly so well as mortar and brick. It is also evident, that, if houses cost more in building, and especially their decorative parts, the progress of taste in architecture would not be half so rapid.

Art. V. *Literary Notices.*

The following works are in course of publication, or have recently been published, by Mr. Williams:—

Plans, Elevations, and Sections of Mr. Hopper's Design for the New Houses of Parliament.

The History and Antiquities of Chartham Church, Kent. By W. Caveler, Architect. Subscribers' names are received at Mr. Williams's.

Mr. Blackburn is preparing a new work, *On the Pointed Architecture of England during the Middle Ages*, which will appear in numbers.

Bree's *Original Designs for Furniture, Architectural Decorations, &c.*, in all the different styles of Architecture, will very soon appear.

Caveler *On Stained Glass*, with many brilliantly coloured plates, will shortly appear.

Mr. Arundale, a pupil of the late Augustus Pugin, who has been making a professional tour in Syria, Egypt, and the Holy Land, will shortly publish, from drawings taken on the spot, *A Series of Twenty-four Illustrations of the most interesting Views between Grand Cairo and Beirout;* including the Desert and Convent of Mount Sinai, the City of Jerusalem, Tyre, Sidon, Nazareth, Bethlehem, and Mount Sinai. Price 21*s.*

Mr. Williams's *Select Catalogue of Works on Architecture, Engineering, and the Fine Arts*, recently published, or imported from the Continent, has just been published. It consists of 28 pages, and contains 3 woodcuts.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

Water-Closets on an improved plan, and not liable to be out of order, have been recently introduced by Mr. Ody, of the Strand. In Mr. Ody's plan the small appendages, such as the service-box and valve, the spring lever and pipe to conduct the wire, the air-trap, &c., have been dispensed with. All the necessary apparatus being under the seat, any obstruction can be removed in a few minutes. Architects, builders, and others, by applying at Mr. Ody's, can have the improved water-closet explained, and plans, elevations, sections, &c., of it given to them. In the College of Surgeons, Lincoln's Inn Fields, and Messrs. Twining's new tea warehouse, Strand, the improved water-closets are being put up. The cost of a single water-closet is 8*l.* — *Tyro. Wilmington Square.*

Perkins's patent Cooking Apparatus.—The novelty of this system of cookery is that of cooking the meat, fish, poultry, &c., in their own juices, through the medium of *dry steam*, thereby perfectly preserving the flavour, and at the same time rendering the article much more tender than by any other method now in practice, Dry steam is steam not completely saturated with water.

It is perfectly invisible in the atmosphere, and is very favourable for cooking almost every article, in a very superior style, with very little attention. The principal reason why the French excel in the art of cookery is, that they pay great attention to the temperature of the apparatus, so that it may never get up to the boiling point while the cooking is going on. It is a peculiar property of this system, that the contents of the vessel in which the food which is to be cooked is placed can never, with the most rapid boiling, get up to the boiling point. It is very true, that the temperature of water cannot get above 212°, by the most rapid boiling, when it is exposed to the atmosphere; but, for want of rapid circulation, which is the novel feature of this system, the water is often repelled from the bottom by an excess of heat, allowing the more ponderous matter in the boiler to settle, and become carbonised, and, of course, destroying the flavour of the article dressed. It is really astonishing how moist and juicy a round of beef or a ham will be found after having undergone the process of Perkins's apparatus; and it proves the truth of what was said by a very clever cook, that "the right way to *boil* corned beef is *not to let it boil at all*." It is also a curious fact, that an egg cannot be hardened by this process. The cooking will consume about one third more time than the ordinary method. No water should ever be put into the inner vessel, except when broth, soup, or other savory dishes, are to be made; it should, however, be observed, that much less water serves, even for these dishes, than when dressed by the ordinary method, on account of there being no loss by evaporation: many of the vegetables, such as spinach, &c., require no water. Confectioners and pastrycooks will find it much to their interest and comfort to adopt this system, particularly for their jellies, &c., since no stirring or watching the fire is necessary. A little practice will teach the experienced cook all that is necessary. A round of beef or joint of mutton requires nothing more than its own juices for moisture; neither does a ham nor a leg of pork require any water. Made and sold by John Lee Benham, sole proprietor of the patent, Wigmore Street, Cavendish Square.

A new Article for stuffing Mattresses, Beds, Chairs, &c. — As this Magazine embraces upholstery, as connected with architecture, we have great pleasure in giving publicity to what we consider a very important improvement; viz. the employment of a new article for stuffing, as a substitute for horsehair straw, flock, cotton, alga marina, and various other substances in general use for seamen's hammocks and bedding, soldiers' mattresses and pillows, for the use of schools, poor-houses, lunatic asylums, prisons, convict ships, and other large dormitories. The article alluded to is the coir, or fibrous covering of the cocoa nut; and, though it has been long used in India and China, for almost every purpose for which a tough fibrous material can be employed, yet its application to those purposes in this country seems to have been reserved for Captain Wildey.

The advantages which this substitute for horsehair possesses over all other materials used for similar purposes are, according to Captain Wildey, as follows: — 1st. That it can be furnished at less than half the price of horsehair; that its elastic properties approach that material nearer than any other substance known, not being liable to get into hard knots, like flock, cotton, tow, or other articles used for the same purpose. 2dly. This substitute will be found both sweet and wholesome, as it will not be affected by damp or moisture, neither can it be injured by salt or fresh water, possessing advantages over every other substance, as vermin will neither harbour or breed in it; an advantage alone of the utmost importance in a barrack or other large dormitory. This substitute, from its durability, will, in the end, prove a great saving to government, whenever it is introduced into general use in His Majesty's service, or to any individual institution which might adopt it, as it will be unnecessary, from the durability of this filament, to make any change in it till the covers of the bedding and pillows are completely worn out, which would not be for several years; when the stuffing, on being immersed an hour or two in water (with a handful of salt thrown on it), and dried in the sun, may be put into new covers; this simple process being quite sufficient to restore all its elastic qualities. 3dly. The use of this substitute in barracks will entirely supersede the frequency of changing the straw in the army; a matter not easily accomplished in wet weather without its imbibing a certain portion of damp, thereby tending to create vermin and the decomposition of the straw. Added to this, the heat and moisture from the soldier, whether in Europe or in a tropical climate, cannot fail, more or less, to injure his health and cause disease. Another advantage, of high importance, not only with regard to cleanliness and health, as connected with the barrack and barrack-yard, will be found in the use of the substitute, as it will entirely do away with the nuisance of burning the condemned straw from the soldiers' bedding, which in wet weather is not easily done, and in windy weather too frequently strews the barrack-yard with its half-burnt remains. 4thly. Great

advantages will arise, also, from this substitute being manufactured into traces for artillery, from the lightness and durability of the material, as well as its elastic qualities, not being so liable to snap asunder, as traces made of hemp or leather, on a sudden start of the horses in flying artillery. It will be found equally as useful for drag-ropes in foot artillery, and can be applied to various other military purposes; particularly when a river cannot be forded, a communication may be made with its opposite bank by a small buoy, with grappling-hooks in it, attached to a rope of this manufacture, as both the buoy and the rope would float across with the stream. Cable bridges or rafts might be made in short pieces, so as to be carried in the inside of pontoons, by the aid of which a certain number of men may be transported across a river in a few minutes.

The same advantages will be found in the use of the substitute for horse-hair by every class of society, with regard to health and cleanliness (as those of the navy and army), who sleep upon beds and matresses filled with flock, mixed animal hair, alga marina, cotton, tow, and other unwholesome, contagious, and unprepared substances.

The printed paper from which the above paragraphs are taken contains the testimonials of a medical man and some experienced officers of the army and navy, as well as that of a surgeon, in favour of what is asserted by Captain Wildey.

Art. II. *Foreign Notices.*

FRANCE.

Caen, Normandy, September 4. 1836. — It is pleasant to see the striking proofs of prosperity which Caen exhibits. New houses are springing up on all sides: even whole streets of them, besides a superb new theatre and other public buildings; and all of hewn stone of a beautiful colour and texture, and which is often ornamented by bas-reliefs, &c., in good taste. One of these houses, in a back street, meant for a single shop, has a frontage not much short of 100 ft. The only drawback is, that, as all the stone, which greatly resembles Bath stone in its colour, softness, &c., is brought in vast masses, often of from 50 to 60 cubic feet each, and all cut and worked on the spot, the streets every where resemble stone quarries, with men, by dozens and scores, sawing, chipping, and carving, in all directions. The new houses at Caen, which are chiefly of a superior class, are not deceptive, like those at Paris (where, in the Rue de Rivoli, though the fronts and partition walls are stone, all the back parts, and the extensive courts, are of timber framework, lathed across on both sides, and filled up, as the laths are nailed, in the roughest way, with refuse-stones of all shapes and sizes, mortar being dashed in between them with the hand, and the whole smoothed over with a coating of plaster); but are really what they seem — wholly of stone; the end walls between house and house usually of stones of no great size, roughly dressed; but the front, backs, and interior walls, of stone of large dimensions, hewn smooth on both sides; so as that the walls are but of the thickness of one stone, which, in the front and back, is from 12 in. to 18 in. thick, but in the inner division walls often not exceeding 5 in. or 6 in., and in front of the chimneys not much above 2 in. Here, as in England, and, indeed, almost every where on the Continent, economy in materials and space seems the great aim; the walls being pared down to a thickness barely sufficient to give support to the joists, which, as with us, are made to compensate, by their great depth, for the now generally discarded cross-beams; and the rooms, unlike those of the spacious and certainly more convenient habitations of former days, being reduced both in number and size to the minimum of accommodation. A new house, answering to the second-rate ones of London, I was told, may be built or bought for about 30,000 francs (1200*l.*) Gas pipes are being laid down by English workmen in all the streets; and, in the principal ones, *trottoirs* (or flagged foot-pavements) are begun; in which, instead of, as at Paris, exposing the pedestrian to a constant interchange of ups and downs, by placing curb-stones on each side, wherever the path is crossed by a carriage-way to the *porte cochère* of a large house, they discard

curb-stones there, and have given a gradual descent for a couple of feet to the flags on each side of these crossings of a lower level, which, by this rational plan (which I first saw adopted at Rome, in 1830, and well deserves imitation in our English large towns), are passed almost insensibly, and cause no shock or interruption, however often they occur. Another improvement at Caen is, that all the names of the streets on the corners are painted in black letters on oval plates of porcelain, glazed and baked subsequently; and are thus much more legible and durable than when painted on tin or wood. This plan is also adopted at Bayeaux, and even as to the numbers of all the houses. — *W. S.*

GERMANY.

Berlin. — The magnificent palace for Prince William, at the entrance of the Linden Street, is rapidly proceeding towards its completion, and will, it is expected, be in fit state to be occupied by His Royal Highness in the course of the present autumn. Immediately in front of it is to be erected a monumental cast-iron column in honour of Frederick the Great. Another important architectural work is the new edifice for the library, which has been long greatly wanted, the present one being quite out of repair, and not sufficiently extensive for the increased collection of books.

Brunswick. — The new palace, after the style of that called the Pitti, at Florence, is 400 ft. in front by 200 ft. in depth, and has three orders of columns, the first of which are 36 ft. high and 4 ft. in diameter. The roof is covered with plates of cast iron, of which material is likewise the upper cornice; and this latter is enriched with lions' heads of a pale gold colour. The entrance on the right and left is so contrived, that the Duke can ride up to the vestibule above on horseback. The interior is splendid; and the apartments in the left wing will be ready to be inhabited almost immediately. — *W. L. H.*

RUSSIA.

St. Petersburg. — Within the three last years, this capital has extended itself greatly. New streets have been erected in various directions, in parts which were formerly quite beyond the boundaries of the city; and numerous other improvements are in the course of taking place; one of which is to convey an abundant supply of water from the Neva to all parts of the town. The works of the St. Isaac's Church are now proceeding with great rapidity, no fewer than three thousand men being employed on them daily during the present summer. Of the twenty-four granite columns (each of a single piece, 42 ft. high) which are to adorn the exterior of the dome, fifteen are already erected, and the remaining nine have been prepared at the quarries. At present, the forest of scaffolding which surrounds the edifice renders it impossible to judge precisely what the effect will be; yet there is little risk in predicting that, when completed, it will prove the most stupendous architectural monument of modern times; not, indeed, altogether the rival of St. Peter's at Rome, as far as depends upon actual dimensions alone, but eclipsing it both in splendour of materials and in grandeur of style. — *Id.*

Art. III. *Domestic Notices.*

ENGLAND.

The Members of the Institute of British Architects, who were Exhibitors of Parliamentary Designs, have, *with only two exceptions*, presented their shares of the proceeds to that institution, for the purpose of being laid out in some series of books or works of art, and by this means to increase the library or collection. The sum amounts to about 100*l.* This seems a purpose well worthy the high-minded individuals, who have thus acted with a liberality which deserves imitation. — *C. D.*

The general Architectural Improvement of London. — We are happy to see that this subject is attracting the attention of Parliament; Mr. Alderman Wood has obtained a select committee to consider the propriety of a new street from Southwark Bridge to the Bank of England; another from Waterloo Bridge to the New Road; a third, from Lothbury to the Post-Office; a fourth, from the Post-Office to Smithfield; a fifth, from Holborn to the Strand; a sixth, through Southwark; a seventh, from St. Paul's to Blackfriars' Bridge; an eighth, from Oxford Street southwards; and a ninth, from Westminster Abbey to Belgrave Square. Sir Robert Peel hoped that an enlarged view would be taken of the subject, and that the house would not fall into the error it had committed with respect to railroads. Perhaps the best mode of proceeding with railroads would have been to appoint competent persons to survey the whole country, and to report upon the most eligible lines; but, though it was now too late to take that course, something of the same kind might be done, with a view to the contemplated improvements of the metropolis; and, before money of any kind were expended, some foresight ought to be used as to the future extension of London. If commissioners could be found, in whom the public would have confidence, for a rational and comprehensive plan, it would be a subject of much congratulation. (*Morn. Chron.*, June 17.) In this Magazine and in the *Gardener's Magazine*, several years ago, we have repeatedly suggested the idea of the metropolis and its neighbourhood, to a certain distance to be determined by Parliament, being governed by a council or committee, who should devise and direct all useful and ornamental improvements, &c. The error, in this country, has hitherto been, that public improvements, which ought to emanate from governments, either local or general, have been carried into execution by companies. Even laws have originated and been promulgated in this way, instead of originating in a government minister appointed for that department, as has lately been shown in the House of Lords, in a speech by Lord Langdale, remarkable for its enlightened, comprehensive, and, at the same time, practical views. It is hardly possible that the plans of any public company, however wealthy or enlightened, can be so comprehensive, and so well calculated to benefit the whole public, as those devised by the representative of that public, viz. the government. This is always supposing, however, that the individuals composing the government are on a par, in point of intelligence, with the individuals likely to form the governors of the companies alluded to. — *Cond.*

Visits of foreign Architects to England. — Baron Von Kleuze, architect of the Glyptotheca and Pinacotheca at Munich, has recently visited this country, and been to Liverpool and York to see our works of art and manufactories. We understand that he expressed himself much pleased with what he has witnessed, and the results of the mechanical skill which has been so highly cultivated of late years in Great Britain. The Baron has expressed himself deeply gratified with the attentions which he has received on the part of the members of the Institute of British Architects, of which body he is an honorary and corresponding member.

Monsieur Blouet, the author of the admirable work on the Baths of Caracalla, architect of the scientific expedition to the Morea, and under whose direction the Barrière de l'E'toile has been recently completed and opened on the anniversary of the *three glorious days* of July, has just left London, after a stay of a few days. The vastness of the city, and the judicious arrangements of our parks, which have no parallel feature at Paris, were the objects with which he seemed the most struck. Our public buildings appeared to interest him much, and not to have, on the whole, produced those unfavourable impressions which some reviewers and critics of the present day seem to consider as the only possible result of the public buildings of England. We have no doubt that, when our artists are furnished with the means which are placed at the disposal of those at Paris, Munich, and Berlin, they will produce monuments of art worthy the occasion. The Arc de l'E'toile has cost 400,000*l.*; and our representatives are squabbling about granting only twice that sum for our new Houses of Parliament. — *W.*

Greenwich Railway. — An entrance, having the form of a triumphal arch, is to be erected near St. Thomas's Hospital to the Greenwich Railway. — *Tyro. Wilmington Square.*

An Equestrian Statue of the Duke of Wellington, of bronze, and mounted upon a plain pedestal, is in contemplation to be erected on the Borough side of London Bridge. — *Id.*

Metropolitan Benefit Society's Asylum. — The first stone of a new building for the society was laid by the Lord Mayor, on the 17th of August last, on a piece of ground next to the almshouses (see Vol. II. p. 465.) at Kingsland. — *Id. October* 1.

Waterloo Place. — An elegant cast-iron pillar, supporting three handsome lamps, mounted upon a granite pedestal, and enclosed with an ornamental iron railing, has just been finished, on the spot intended to have been occupied by the equestrian statue of George III., near Waterloo Place. — *Id. July* 1.

The German Chapel in St. James's Park, and facing the east side of St. James's Palace, is being repaired. The buildings adjoining the north side, which faces Pall Mall, have been cleared away; and a front of an architectural character is being added. — *Id.*

A new Brewhouse is now being built for Messrs. Goding, on the Surrey side of the water, close to and facing the river Thames, and near to the Commercial Road, near Waterloo Bridge. The building, which is of a large size, and which is now being covered in, will form a fine feature from the Middlesex side of the Thames. The river front will be rather imposing, having greater pretensions to architectural display than brewhouses generally have. More buildings are projected near the spot; and those of your readers who really like their profession may gain much practical information by turning their attention, in leisure hours, to the various new buildings now being erected in that neighbourhood. — *Id.*

A new Chapel, situated in Trinity Street, and facing Trinity Terrace, Borough, is now being erected. The front and sides of this building are to be faced with bricks of a light colour; but the pilasters, entablature, &c., are to be worked in cement. — *Id.*

A new Chapel, in the Italian style of architecture, entitled "Trinity Chapel," and situated in Great Suffolk Street east, leading into Blackman Street, Borough, has just been completed. The whole of the front is faced with stone. — *Id.*

St. George's Fields. Bethlem Hospital. — This admirable institution, which has been for a considerable time looked upon as an important architectural feature, is likely to be much injured, by the erection of a high blank wall enclosing a large piece of ground in front of the hospital; prior to this addition, there was an excellent footpath close to the building, from which might be seen the details of the front; but the building can now only be viewed from the distance. — *Id.*

An ornamental Obelisk, supporting gas lamps, has been, also, recently set up, a little beyond the New Indigent Blind School, in St. George's Fields. — *Id.*

The Area between the New Post-Office and St. Paul's has lately been enlarged by the pulling down of some houses; but, unfortunately, enough are left standing to show the incompleteness of the plan, and to render the improvement one of the least satisfactory that has lately taken place in the City. — *R. W. Tower Hill.*

King William Street, City. — The houses forming the circular part of King William Street, near Gracechurch Street, are being erected: they are to be faced with bricks, and the three-quartered columns, pilasters, entablature, &c., are to be in cement. The bressummers to the shops of these new buildings are of cast iron. — *Tyro. Wilmington Square.*

One additional Feature which has been made in this street, is the ornamental iron railing which encloses St. Mary Woolnoth in the front, with a semicircu-

lar sweep, and is continued on the south side, in a line with the houses. The greater part of the boards, which have so long disfigured that portion of the street during the progress of the buildings, is removed; and, when the remainder is taken down, and the railing brought home to the house which is intended to occupy the site, it will present a neat and lively appearance. It would, I think, be a great improvement if a similar ornamental railing were put up in the place of that wooden fence which now stands before St. Saviour's Church, upon the end of the foot-pavement. This, when viewed in relation with the Ladye Chapel from the opposite side of the way, would tend greatly to increase the effect. — *Frederick Lush. September*, 1836.

Provincial Cemeteries. — A company is now forming in London, patronised by six members of Parliament well known for their liberal principles, the object of which is to further the erection of cemeteries in different parts of the kingdom. The intention of the company is to advance "one half, or, if necessary, a greater proportion, of the capital requisite for each undertaking, on being allowed a corresponding proportion of the profits, provided that the company approve of such intended cemeteries; and provided that the act of Parliament for the incorporation of each local company contains no invidious distinctions between churchmen and dissenters." We hope these cemeteries will be large; and that one condition of planting them may be, that there shall not be more than two of a species or variety of whatever shrubs or trees may be considered necessary for ornamenting them, and that these varieties or species will be named, so as that, to a certain extent, the cemetery may answer the purpose of an arboretum. We must observe, however, that the idea of forming a company for the purpose of aiding country towns to establish cemeteries, or public gardens, or public improvements of any sort, is not at all in accordance with what we consider proper domestic legislation. No one knows this better than the patrons of the intended company; but we suppose that they find that they cannot do better at present. Cemeteries, public gardens, museums, &c., ought to be formed, whenever they are required, by the municipal corporations, or rather representatives, of the town, village, or parish, at the expense of the rate-payers, and for their benefit; in other words, at the expense of all, for the benefit of all. — *Cond.*

Hunter's Patent Stone-planing Machine (noticed Vol. II. p. 283.) may be seen at work at Mr. Braithwaite's foundery, Edward's Street, Regent's Park Basin; where stone, slate, and marble are planed on very reasonable terms. This new application of the power of steam, by cheapening pavement of every description, cannot fail to have a beneficial influence on the footways in and about London; and we hope it will, at no distant period, lead to laying down parallel strips of pavement along the gravelled footways all over the country, and more especially in the neighbourhood of large towns. At all events, we trust that this improvement, as suggested Vol. II. p. 134., will soon be tried in the neighbourhood of London. The effect of the machine will also be found in the construction of stone staircases and partitions; which, in iron framing, would go far towards rendering houses fire-proof. — *Id.*

The Idea of taking Bird's-eye Views of Estates from Balloons has been suggested by Lord Clanricarde; and, since the suggestion, Mr. Burton, an artist in Savoy Street, Strand, has described to Mr. Green a mode of carrying the idea into effect. "The inventor proposes to build a waggon, for the purpose of fastening a balloon to it; which, when filled with gas (which can be done in various parts of the country, at gas companies' gasometers), may then be conveyed to any place a surveyor requires, where, on a calm day, he can ascend and take plans, carrying with him the proper instruments. The balloon will then be fastened with ropes to the spot most favourable for observation, and raised to an elevation of 300 ft. or 400 ft., as necessary. In this way a bird's-eye view can be taken of any town or city. Mr. Green is willing at any time that his balloon, by way of experiment, may be made use of in that way." (*Morn. Chron.*, Aug. 11.)

Road-making. — The new composition of tar and "lava stone," for which

a patent was granted to Mr. Cassell, is now being laid down in Whitechapel Road. Something of this kind was introduced, about four years ago, at Clapham, by way of experiment. — *Frederick Lush. September*, 1836.

Bedfordshire. Earl de Grey's new Mansion, now erecting at Wrest Park, will, we understand, be a stately pile of Grecian architecture, with four stone fronts, enriched with sculpture, and in every way worthy of the noble President of the Institute of British Architects. His Lordship is, we are informed, his own chief, if not sole, architect. — *W. L. H. Bedford.*

Berkshire. Reading. — A new Blue Coat School, in the pointed style of architecture, is now being built in the town of Reading. The front is faced with Bath stone, as also are many of the modern edifices, on account of its being cheaper than bricks. In the walls no bond timber of any kind is used; and the partitions, instead of being constructed of wood, and framed, are of this stone. This mode of building is common at Reading: even when the kitchen and other offices form part of a house, the walls are still only 5 in. in thickness, and of stone. Although this is a cheap way of building, I do not consider it by any means substantial; for, in case of a settlement, a crack in a 5-in. wall would let the weather in. — *Tyro. Wilmington Square.*

The Committee for promoting the "Royal Berkshire Hospital" have invited architects, "being principals," to send in designs and estimates, in accordance with certain particulars, to be furnished on application to C. S. Robinson, Esq., or H. F. Letchworth, Esq., of Reading, the honorary secretaries. We have been favoured with a sight of the lithographed plan of the site; by which the ground appears to be nearly of a square form, and to contain exactly four acres; and the diagonal of the square is very nearly a north and south line. On the north and west sides, the square is bounded by public roads. The premiums for designs are 50*l.*, 30*l.*, and 20*l.* The following is a copy of the particulars: —

1. The designs to be drawn in sepia, and on a scale of 4 ft. to 1 in. 2. No models to be admitted. 3. The hospital to be built of brick, cased throughout with Bath stone, and to face the London Road, at the distance of 100 ft., occupying a central position from east to west. 4. The expense of the *building* (without enclosures) not to exceed 6000*l.*; and accommodation to be afforded for sixty beds in the wards, besides suitable apartments for the *usual* officers of the institution. 5. The building to be so constructed as to present an appearance of completeness, especially in front, but admitting, without violence to its architectural character, and by easy adaptation, of sufficient enlargement to accommodate forty additional beds. 6. The entrance-hall and principal staircase to be of stone. 7. Care to be taken that the staircases and passages shall be of ample dimensions for the purposes of an hospital. 8. The windows to be carried to the ceiling; and fireplaces, not flues, to be in the several rooms. 9. One room on the ground-floor to be adapted as a bath-room. 10. Provision to be made for a cistern or cisterns, to afford an adequate supply of water to every part of the building. 11. The royal arms to appear on the front of the building. 12. The estimate to state the price upon which the calculation is made of timber per foot; brick per rod; stone per cubic foot. 13. The depth and thickness of the walls at the foundation, and their thickness at the several floors of the building, to be stated; together with the substance of the timbers to be used throughout the edifice. 14. All drainings and sewers to be included in the estimate. 15. The land, upon being surveyed, is found to be very nearly a level; and the soil, as indicated by an excavation 10 ft. deep, is a dry gravel. 16. Regard to ventilation to be considered a primary object.

Improvements at Windsor. — The tenements near the Long Walk, at the entrance to Park Street, have been purchased by the Commissioners of Woods and Forests; and they intend to have them removed, to form in their place a shrubbery, with a neat palisade. — *Frederick Lush. September*, 1836.

Devonshire. Kingsbridge. — A new workhouse is to be immediately built at Kingsbridge, to accommodate 350 paupers. Architects are invited to

compete, and the various works are to be contracted for. — *Tyro. Wilmington Square.*

Plymouth. — We are rapidly improving at Plymouth. Several new lines of houses are erecting from elegant designs by Mr. Wightwick, and also a new hospital, a woodcut representing which, and a description, are published in the *South Devon Monthly Museum*, No. xxxiv., for October, 1835. It is also contemplated to erect a building for horticultural exhibitions, the design for which is already prepared by Mr. Wightwick. — *H. B. Plymouth, July*, 1836.

Dorsetshire. Beaminster. — A new workhouse, from the designs, and to be erected under the direction, of H. S. Whitling, Esq., architect, is to be built on a piece of ground about one mile from the town of Beaminster. The present number of paupers is about 230. — *Tyro. Wilmington Square.*

Bridport. — A new workhouse, from the designs and under the superintendence of John Whitling, Esq., is to be immediately erected at Bridport, to accommodate 200 paupers. The various works are to be contracted for. — *Id.*

Essex. New Schools, with master's house, &c., for the "Fawbert and Barnard's Charity," are in course of erection at Harlow, from the very elegant and chaste designs of Robert Abraham, Esq., of Torrington Square. The contract for building them was taken by Mr. Cheffins of Bishop's Stortford, at 1275*l.*

Colchester. — A new workhouse, from the designs and under the superintendence of Mr. John Brown, of Norwich, is to be erected at Colchester. The various works are now being contracted for. — *Id.*

Epping. — A new workhouse is to be erected at Epping, from the designs and under the direction of Sampson Kempthorne, Esq. The various works were put out to contract. — *Id.*

Herefordshire. Ross. — A new workhouse is to be erected at Ross, for the accommodation of 160 paupers. The various works were contracted for. — *Id.*

Hertfordshire. Bishop's Stortford. — Thirty-eight designs were sent in for the new workhouse; and, after much discussion, the Board awarded the premium to Mr. T. Le Evans, of London. Mr. William Cheffins of Bishop's Stortford obtained the second place. The plan, which is taken from Mr. Kempthorne's Hexagon Workhouse, No. 10., was afterwards confided to Mr. Nash of Royston, by whom it has been judiciously altered and improved. Tenders for the works were sent in on June 26.; when Messrs. Glasscock, Perry, and Son were the successful contractors, at the sum of 9175*l.* The works are already in active progress.—*B. S. Bishop's Stortford, July* 25. 1835.

Buntingford. — A new workhouse is to be erected on a piece of ground in the parish of Layston, adjoining the town of Buntingford. The various works were put out to contract. — *Tyro. Wilmington Square.*

Hatfield House.—The repairs of this noble building are proceeding rapidly; and the greatest care is being taken to restore the former appearance of the building as exactly as possible. — *C. M. Hertford.*

Hoddesdon. — A fanciful and ornamental erection has just been completed at Hoddesdon. It contains an engine-house, watch-house, vestry-room, &c. — *Tyro. Wilmington Square.*

St. Alban's. — A new workhouse is to be immediately erected on a piece of ground situated in the parish of St. Michael, and near to the town of St. Alban's. The various works are to be put to contract. — *Id.*

Watford. — A new chapel of ease is to be erected on Bushey Heath, and near to the town of Watford. — *Id.*

Kent. Herne Bay is about to possess a grand and valuable ornament, through the munificence of Mrs. Thwaites, who has chosen the bay for her summer residence for the last two seasons. In the enclosure near the pier this lady has given directions for the erection of a Grecian temple, 70 ft. high, on the top of which is to be fixed a clock. The fabric will be of a quadrangular form, supported at each corner by pillars of the Corinthian order. At the top will be a cupola, or dome, immediately beneath which the clock, with four illu-

minated dials, will be placed. Every exertion will, we understand, be made to commence the work in the first week in October. Mrs. Thwaites, it is said, will lay the first stone. Preparations are in progress for making the day one of general rejoicing and festivity. (*Morn. Chron.*, Aug. 26.)

Lancashire. Manchester. — The following rooms are to form one handsome building, to be erected on the site of the present Exchange buildings; namely: — A spacious exchange-room, news-room, Lloyd's-room, post-office, a room for the accommodation of the Chamber of Commerce, a room for public meetings, a room for public sales, brokers' offices and chambers, a library, and other apartments for such purposes as may be considered advantageous to the public. — *Tyro. Wilmington Square.*

Leicestershire. Leicester. — A general news-room, with a library, is to be erected in the town of Leicester: it is to form a handsome building, to be built similar to the news-room and library situated in Moseley Street, Manchester. The sum to be laid out is 3000*l.* — *Id.*

Lincolnshire. Lincoln. — An elegant new chapel, entitled "Wesley's Chapel," has just been completed in the town of Lincoln. It is in the Grecian style of architecture, having its front and sides of brick and stone. A porch, supported by columns of the Ionic order, shelters the entrance. This chapel, like many others, is, unfortunately, situated in the rear of the houses facing the street, and consequently is partly hidden from view. — *Id.*

Stamford Bridge. — The foundation-stone of a residence on a splendid scale was laid, on the 19th of July last, by C. Darley, Esq., in the neighbourhood of Stamford Bridge. It is to be erected from the designs and under the superintendence of A. Salvin, Esq., of London, Architect. — *Id.*

Somersetshire. Bath General Cemetery Company. — The following is an estimate of the costs of constructing a cemetery (to be within two miles of Bath) on fifteen acres of land, of freehold tenure, and of good access; viz.: —

Preliminary expenses, advertisements, &c., costs of act of Parliament, purchase of land, &c.	4500*l.*
Fencing, iron railing, walling, and gates	1900*l.*
Excavation and embankments, masonry, &c.	2000*l.*
Erecting 3 chapels, residence for superintendents, and observatory	5000*l.*
Planting and laying out ground with evergreens and flowers, walks, &c.	600*l.*
Contingencies and unforeseen expenses	1000*l.*
	15000*l.*

The whole of the ground will be laid out and planted after the manner of the cemetery of Pere la Chaise, and surrounded with an ornamental enclosure of sufficient height. — *Id.*

Clifton Suspension Bridge. — The foundation-stone of the south pier of this bridge was laid on August 27. 1836. The following are the principal dimensions: — Distance between the two points of suspension, 700 ft.; length of suspended roadway, 630 ft.; height of roadway above high-water mark, 230 ft.; total width of floor, 34 ft. I. K. Brunel, Esq., F.R.S., engineer. (*Extract from the inscription on the foundation-stone, as quoted in Lit. Gaz.*, Sept. 24.)

Works at Clifton Bridge. The works, which are proceeding on the Leigh Wood side, for carrying on the masonry of the butment, are going forward with great celerity. The new bar has been passed across the Avon, under the superintendence of Mr. Brunel; and the plan adopted by the contractors for bringing up the materials to the place of work is well contrived, and shows a great saving of labour. From the summit of the rocks, upwards of 800 ft. in height, descends an inclined plane of timber, upon which travels a carriage on iron tramways, worked up and down by an endless rope, led on to a drum-wheel at the bottom. Two tons of stone or other material are

raised by two horses in the space of about five minutes. — *Frederick Lush. September* 15. 1836.

Kingston upon Hull. — The foundation-stone of a new college was laid on Friday, the 29th of July last, by Richard Bethel, Esq., M.P. It is being erected upon a field of good extent, situated on the left-hand side of the Beverley Road to Hull, and close to the latter town. The college is to be in the Old English style of architecture, faced with bricks of an even red colour; and the window dressings, door-heads, jambs, &c., are to be worked in stone. — *Tyro. Wilmington Square.*

Newland. — A neat chapel, in the pointed style of architecture, has recently been completed. It is situated in the village of Newland, facing the high road from Beverley to Hull, and has been built for the accommodation of the inhabitants of that part. — *Id.*

Scarborough. — Fourteen almshouses, for aged seamen, are now being erected upon a piece of ground adjoining Nesfield's brewery, at the sole expense of Mr. Richard Wilson of Scarborough. — *Id.*

Art. IV. *Retrospective Criticism.*

Review of "Parsey's Perspective Rectified." (p. 439.)—Mr. Gribble of Torquay, in noticing my work, states, he was "struck with my method of drawing in perspective without the aid of vanishing points," it being, as he says, "precisely the same as occurred to (him), and was put into practice more than seven years ago." If my principles had precisely occurred to Mr. Gribble, he ought to have found that "the common and complicated process of finding the vanishing lines to which the centrolineads are to be adjusted" was no longer complicated, and that mine is a method more ready in principle and practice than either. As Mr. Gribble has had seven years' practice in my methods, he will be able to favour your readers with my method of finding proportional points on a decreased line without vanishing points or the use of the centrolinead; by which method the more the point is inaccessible, the more my system is accessible. The immediate communication of that method to the readers of this Magazine can alone remove from my mind the idea that Mr. Gribble purposes forestalling my originality, and underrating the practical utility of my new methods.

I was about to communicate it myself; but I shall withhold it, and some other equally important points, for a time, lest Mr. Gribble should say that "precisely the same occurred to him, and were put in practice by him seven years ago." As the lines from which vanishing lines are drawn have not been drawn by any perspective rule, the centrolinead has been adjusted to false lines: the true lines can only be produced by rectified perspective.

The centrolinead needs no puffing: Mr. Peter Nicholson invented that excellent instrument to help out the defects of the existing theories; and nothing can more fully prove the necessity of a true and practical theory of perspective than the want of such an instrument, which has been of great use to the architectural draughtsman. But when a simple method is discovered, which supersedes the use of it, the greater is the merit of that method, and none the less that of the invention of the instrument. Mr. Gribble says he has "no doubt whatever of the merits" of my work; but he thinks that "too much has been written on the subject; for," says he, "if the principles be once understood, no proposition can occur in its practice that will not, by a thinking person, be easily solved." Have the true principles of perspective hitherto been understood? My work is not a compiled, or new version of the old story; and, perhaps, this makes Mr. Gribble say "too much has been written" for the continuation of the false principles. In conclusion, let me ask any thinking person whether (as Mr. Gribble says) "*one* or

two lectures would be effectual in putting any one in possession of the principles?" — *A. Parsey. Strand, September 5.* 1836.

The Church of St. Michael, Bath. (p. 483.) — In some remarks of Tyro's on the church of St. Michael, that I am building in this town, he says, "I am afraid that some settlement has taken place in the tower, there being a large crack all down it, which has been once remedied, but has again appeared." Now, I can assure the readers of this Magazine, and it is easy for any one to satisfy himself of the fact, that there is not, nor ever has been, the slightest crack, or even the opening of a joint, in the masonry of the tower, from its foundation to its summit. It must be allowed that I have just cause to complain of Tyro's want of correctness: he has evidently (but how I can hardly understand) mistaken a slight and immaterial "crack," caused by a circumstance beyond the architect's control, in one of the lobbies, for "a large crack all down the tower."—*George P. Manners. Bath, October* 5. 1836.

Mr. Varden's Suburban Villa. (p. 464.) — I have read Mr. Varden's paper on a design for a suburban villa with much interest; for it contains many very clever remarks, hints, and ideas, and may be taken as a good specimen of the kind of description which ought invariably to accompany a design. The observations are such as evidently show that Mr. Varden has bestowed a laudable degree of consideration upon the subject; although, for want of any other drawing than the ground-floor plan, it is impossible for me to judge whether the taste manifested in character and details would correspond with the well-imagined effects at which he has aimed. The particular kind of effect, indeed, which, where it occurs, let it be the result of accident or premeditation, generally tells for more than mere embellishment, seems to have principally engaged the attention of Mr. Varden; a merit or a reproach which the profession generally do not share with him.

Many will, perhaps, smile, and be of opinion that Mr. Varden has pushed his foresight in such matters to an almost ridiculous excess, when he descends to such particulars as "table-covers." I am not the person to censure him on that account: what I object to is, that, notwithstanding this minuteness, he seems to have overlooked one or two things more essential, and which, if not provided for at first, are apt to occasion great, if not irremediable, inconvenience afterwards; and, as Mr. Varden admits that what he has said is to be considered only as the outline of his ideas, he will the more readily excuse my thus calling his attention to what he has either overlooked, or omitted to explain. No scale is attached to the plan; yet, as he states the extreme width of the ground to be 90 ft., it must be in the proportion of one thirtieth of an inch to a foot. This being the case, there cannot, according to the plan, be quite 10 ft. in width at the bottom of the steps leading up to the portico; consequently, it will not be possible for a carriage to turn round there, and draw up before the entrance; which will assuredly be thought no little inconvenience; especially now, when it is almost made a *sine quâ non* that a carriage shall be able to set down company under a covered entrance. In the next place, he either has, or appears to have, forgotten something more essential than a matter of mere taste (which it certainly is not); no water-closet being indicated in the plan, although the locality of such place of retreat is an affair of some importance.

I cannot exactly make out whether this design is actually to be executed or not; but, if it is, I presume that it conforms with the instructions given: yet it certainly does appear strange to me, as it undoubtedly must to many others, that any one should think of erecting a house, containing only two sitting-rooms, and yet that those rooms should be of such large dimensions, and be fitted up with so much display, not to say ostentation. By no means do I hold with those who are of opinion that, in a moderate-sized house, every thing ought to be upon a small scale, and exhibit moderation in embellishment; or that architectural luxury ought not to be indulged in, except the whole establishment be conducted upon a scale of proportionate expense:

but here, it seems, while it is intended to have two rooms fitted up with a rather unusual degree of display, there are no secondary ones whatever, not even to afford that accommodation now considered almost indispensable for "a genteel family," who wish for the usual comforts of modern life. There is neither library, nor study, nor morning-room, nor private apartment of any kind; no place, except the vestibule, which a stranger can be shown into to wait, even though he should come upon business that might require a private interview. There are, what many would dignify by the name of two saloons, not "kept for show alone, and state," — quite the contrary, since there is no alternative but to use them on every occasion; which is not very much unlike a person's having only a full dress attire, and being consequently obliged to wear it from morning to night.

For this kind of inconsistency the architect is not to be censured. If a family, who can be content with such bachelor-like accommodation, as merely a dining-room and a drawingroom, are also anxious that they shall make a display seldom aimed at in private residences of far greater extent and pretension, and which are otherwise suited to an expensive establishment, so much the better for him; since it affords him a very favourable opportunity for showing how high a degree of architectural beauty and character may be accomplished within a comparatively small compass. When I say "inconsistency," I speak rather in accordance with what is likely to be the general opinion, than with my own feeling, since there certainly is no greater inconsistency in making a house a bit of a palace, than in making it a *make-believe* cottage where every thing announces luxury and opulence. Of the two, I should myself give the preference to the former; and would choose to indulge rather in the elegances and refinements of architecture, than to sacrifice them to other considerations. To my mind, therefore, a house of this description would be no more than a delightful "snuggery," for a bachelor who could afford it; nor should I consider the dining-room at all too large or too showy even for a repast *en solitaire*. Most other people, however, entertain very different notions in regard to such matters, few having any relish for that splendid solitude which the author of *Ma Bouderie* has given us a picture of. But I am now giving the reins to my truant imagination; therefore return to Mr. Varden and his design by saying that the objection likely to be urged against it is, that it does not appear very well calculated for a family residence, especially of a family, whose habits and tastes would, it may be conjectured, require rather more, if any thing, than usual in the way of accommodation. Mr. Varden, indeed, talks of economy; yet surely he, or his employer, will be thought to entertain extraordinary ideas of it: at any rate a dinner for twenty-six persons, although it should not be of frequent occurrence, cannot, if at all in a style commensurate with what would be expected from the appearance of the apartment where it is served up, be a very economical affair. However, economy, like many other terms, is one of only relative import; and it may, in this instance, mean an expenditure confined to 10,000*l.* a year.

I regret that the plan of the house was not given in a separate form, and on a larger scale; also accompanied with an elevation and section or two; for it certainly possesses several excellent points, and contains some ideas that might be shaped out in numerous different ways. As I do not perceive from the description anything which would militate against its being adopted, I conceive that it would be an improvement, and lead to other improvements, if desired, were the position altered, by turning it so that the drawingroom front should face the garden, or west, having the entrance to the south, and retaining the entrance-court where it is at present. But, without a plan, I cannot very well tell what else I should recommend to be done; and, as it might, perhaps, be considered somewhat presumptuous, and as taking too great a liberty, I content myself with these few verbal remarks, which I can hardly suppose Mr. Varden will be sorry to find his design has elicited. — *W. H. L. London, October* 4. 1836.